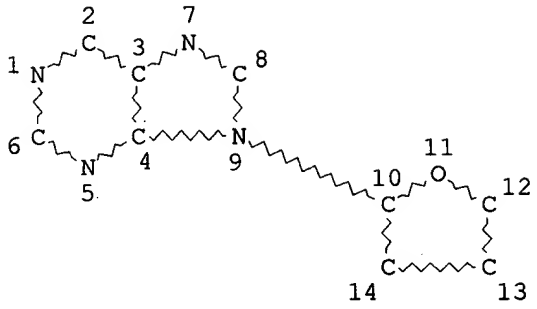
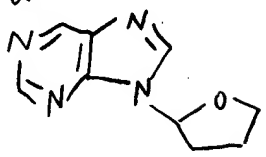
=> d que

L1 STR



parent structures for all based compounds

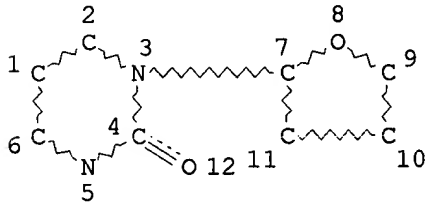


NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

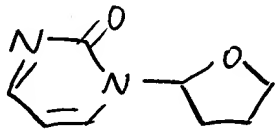
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L3	97886	SEA	FILE=REGISTRY	SSS FUL	L1
L4	62788	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L3 AND P/ELS
L5	60691	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L4 AND N>4 AND O>5
L6	9742	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L5 AND NRS=2
L7	7034	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L6 NOT S/ELS
L8	3646	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L7 AND C<12
L9	3491	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L8 NOT F/ELS
L10	3490	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L9 NOT SI/ELS
L11	3287	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L10 NOT CL/ELS
L12		STR			



parent structure for all based compounds



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 7 3
NUMBER OF NODES IS 12

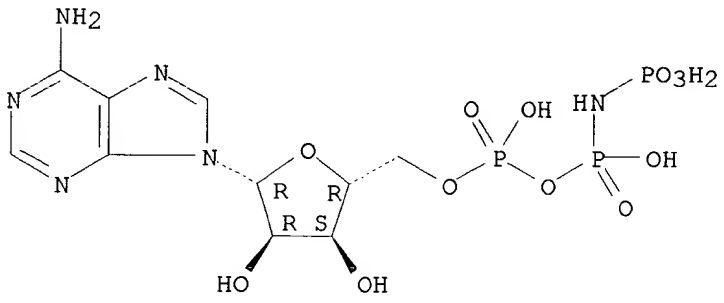
STEREO ATTRIBUTES: NONE

L14	95896	SEA	FILE=REGISTRY	SSS FUL	L12
L15	21405	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L14 AND NRS=2 AND NR=2
L16	1824	SEA	FILE=REGISTRY	ABB=ON PLU=ON	L15 AND P/ELS AND N>1 AND

O>6 AND C<10
L17 1393 SEA FILE=REGISTRY ABB=ON PLU=ON L16 NOT (CL/ELS OR F/ELS OR SI/ELS OR S/ELS)
L18 4680 SEA FILE=REGISTRY ABB=ON PLU=ON L17 OR L11
L19 12788 SEA FILE=HCAPLUS ABB=ON PLU=ON (FLAVOR/CT OR BITTERNESS/CT OR ACRIDITY/CT OR "BITTER FLAVOR"/CT OR "BITTER TASTE"/CT OR "BITTER PRINCIPLES"/CT)
L24 4753 SEA FILE=HCAPLUS ABB=ON PLU=ON (L19 OR ?BITTER? OR TAST? OR FLAVOR? OR FLAVOUR?)(L)(INHIBIT? OR MASK? OR HID?)
L25 90 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND L18
L26 (181627)SEA FILE=REGISTRY ABB=ON PLU=ON NCNC2-NCNC3/ES
L27 (2820)SEA FILE=REGISTRY ABB=ON PLU=ON OC4-OPOC3/ES
L28 (2139)SEA FILE=REGISTRY ABB=ON PLU=ON L26 AND L27
L29 (1346)SEA FILE=REGISTRY ABB=ON PLU=ON L28 AND NR=4
L30 (1346)SEA FILE=REGISTRY ABB=ON PLU=ON L29 AND NRS<3
L31 (532)SEA FILE=REGISTRY ABB=ON PLU=ON OC4/ES AND NCNC2-NCNC3/ES AND NR=3 AND NRS=2 AND N=5 AND O=8 AND P=1
L32 (770)SEA FILE=REGISTRY ABB=ON PLU=ON NCNC3/ES AND OC4/ES AND N=2 AND O=9 AND P=1 AND NR=2 AND NRS=2
L33 (477)SEA FILE=REGISTRY ABB=ON PLU=ON OC4/ES AND NCNC2-NCNC3/ES AND NR=3 AND NRS=2 AND N=5 AND O=6 AND P=1
L34 (287)SEA FILE=REGISTRY ABB=ON PLU=ON NCNC3/ES AND OC4/ES AND N=3 AND O=7 AND P=1 AND NR=2 AND NRS=2
L35 (1058)SEA FILE=REGISTRY ABB=ON PLU=ON OC4/ES AND NCNC2-NCNC3/ES AND NR=3 AND NRS=2 AND N=5 AND O=7 AND P=1
L36 (405)SEA FILE=REGISTRY ABB=ON PLU=ON OC4/ES AND NCNC2-NCNC3/ES AND NR=3 AND NRS=2 AND N=5 AND O=12 AND P=3
L37 (4861)SEA FILE=REGISTRY ABB=ON PLU=ON L30 OR LL8 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36
L38 (370)SEA FILE=HCAPLUS ABB=ON PLU=ON L37(L)(FLAVOR? OR FLAVOUR? OR ?BITTER? OR TAST?)
L39 (14567)SEA FILE=HCAPLUS ABB=ON PLU=ON L37(L)(MASK? OR INHIBIT? OR HID?)
L40 17 SEA FILE=HCAPLUS ABB=ON PLU=ON L39 AND L38
L41 75 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 NOT L40

L41 ANSWER 1 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:823000 HCAPLUS
DN 136:67373
TI Cytochemical examination of the AMP-PNP-hydrolyzing enzymatic activity in rabbit **taste** bud cells: Effects of **inhibitors** and activators of ATP pyrophosphatase and of adenylyl cyclase
AU Asanuma, Naokazu; Anod, Hiroshi
CS Dep. Oral Physiology, Matsumoto Dental Univ. Sch. Dentistry, Japan
SO Matsumoto Shigaku (2001), 27(1), 10-20
CODEN: MATSDE; ISSN: 0385-1613
PB Matsumoto Shika Daigaku Gakkai
DT Journal
LA English
AB In the apical regions of rabbit **taste** bud cells, esp. on the surface of the microvilli, there exists an enzymic activity that hydrolyzes an ATP analog, 5'-adenylylimidodiphosphate. Since our previous study had suggested that this activity was that of either ATP pyrophosphatase or adenylyl cyclase, the effects of **inhibitors** and activators of these enzymes on the enzymic activity were examd. cytochem. ATP pyrophosphatase **inhibitors** (dithiothreitol, sodium fluoride and amiloride) reduced the enzymic activity, while adenylyl cyclase **inhibitors** (p-chloromercuriphenylsulfonic acid and 5,5'-dithio-bis(2-nitrobenzoic acid)) did not. The effect of a mild activator of ATP pyrophosphatase (sodium azide) was not generally clear. Forskolin, a potent activator of adenylyl cyclase, did not show any enhancing effect. Ca2+ enhanced the enzymic activity. The results indicate that the enzymic activity is that of ATP pyrophosphatase and probably that of Ca2+-dependent type.
IT **25612-73-1**, AMP-PNP
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ATP pyrophosphatase and calcium in AMP-PNP hydrolysis in rabbit taste bud cells)
RN 25612-73-1 HCAPLUS
CN 5'-Adenylic acid, monoanhydride with imidodiphosphoric acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 2 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:787297 HCAPLUS
DN 136:35325

TI Glutamate transduction mechanism in mouse taste cells

AU Sugimoto, Kumiko; Nakashima, Kiyohito; Yasumatsu, Keiko; Sasamoto, Kazushige; Ninomiya, Yuzo

CS Section Mol. Neurobiol., Grad. Sch., Tokyo Med. Dental Univ., Tokyo, 113-8549, Japan

SO Sensory Neuron (2001), 3(3), 139-154
CODEN: SNEEBI; ISSN: 1567-5157

PB VSP BV

DT Journal

LA English

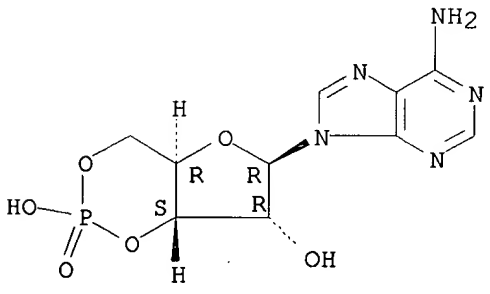
AB In order to clarify the role of group III metabotropic glutamate receptor (including mGluR4) in transduction for umami **taste**, we investigated the effects of monosodium glutamate (MSG) and 2-amino-4-phosphonobutyrate (L-AP4), a mGluR4 agonist, on **taste** cells by use of electrophysiol. and biochem. methods, and Ca2+ imaging in C57BL mice. The responses of the chorda tympani (CT) nerve to MSG were suppressed by gurmarin, a sweet response **inhibitor**, indicating that the MSG response may be partly mediated by sweet receptors, while the CT responses to L-AP4 and the glossopharyngeal (GL) nerve responses to MSG were little suppressed by gurmarin suggesting that these responses may be mediated by only umami receptors. Biochem. study demonstrated that MSG stimulation significantly elevated both adenosine 3',5'-cyclic monophosphate (cAMP) and inositol 1,4,5-triphosphate (IP3) levels in the fungiform papillae. The increase in cAMP might occur through sweet receptors, which is consistent with CT nerve responses. The increase in IP3 levels may relate to intracellular events mediated by group III mGluRs, because MSG and L-AP4 induced increment of intracellular Ca2+ concn. in some **taste** cells. Whole-cell patch-clamp recording from isolated **taste** cells showed that L-AP4 induced not only outward currents with a conductance decreases but also inward currents with conductance increases at about resting potentials. These inward currents reversed at +10-+30 mV suggesting that cation conductance was activated by L-AP4. These results strongly support the idea that phospholipase C activation mediated by group III mGluRs is involved in transduction mechanism for umami **taste**, and also suggest the possibility that stimulation of the mGluRs may cause activation of cation conductance as well as [Ca2+]i elevation.

IT **60-92-4**, CAMP
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cation conductance and phospholipase C activation in glutamate transduction mechanism in mouse taste cells in relation to)

RN 60-92-4 HCAPLUS

CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

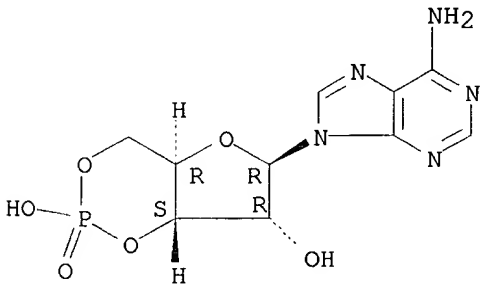
Absolute stereochemistry.



RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 3 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:513863 HCAPLUS
DN 135:224289
TI Reconstituted ion channels of frog fungiform papilla cell membrane
AU Fukasawa, Takashi; Kumazawa, Takashi; Miyamoto, Takenori; Fujiyama, Rie; Okada, Yukio; Sato, Toshihide
CS Department of Materials Science and Engineering, Saitama Institute of Technology, Nagasaki University School of Dentistry, Japan
SO Zool. Sci. (2001), 18(3), 299-307
CODEN: ZOSCEX; ISSN: 0289-0003
PB Zoological Society of Japan
DT Journal
LA English
AB We identified a Cl- channel, 2 K+ channels, and a cAMP-gated channel which were isolated from bullfrog fungiform papilla cell membranes and incorporated into phospholipid bilayers using the tip-dip method. The 156 pS channels were **inhibited** by 100 .mu.M DIDS and displayed the reversal potential identical to the equil. potential of Cl-, it was identified as a Cl- channel. Two types of K+ channel had unitary conductances of 79 and 43 pS, which may correspond to those of Ca2+-activated and cAMP-blockable K+ channels obsd. in isolated intact frog **taste** cell membranes, resp. These results suggest that the tip-dip method is useful for stable investigation of the properties of ion channels already identified in the **taste** cell. Furthermore, the 23 pS channels were newly found and were activated directly by internal cAMP as cyclic nucleotide-gated (CNG) nonselective cation channels established in olfactory receptor cells. Thus, our results suggest the possibility that besides Cl- and K+ channels, the cAMP-gated channels contribute to **taste** transduction.
IT **60-92-4**, CAMP
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(reconstituted ion channels of frog fungiform papilla cell membrane)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.

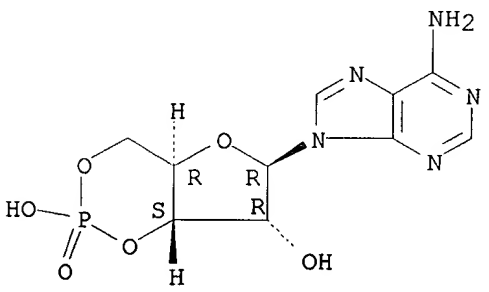


RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 4 OF 75 HCAPLUS COPYRIGHT 2002 ACS

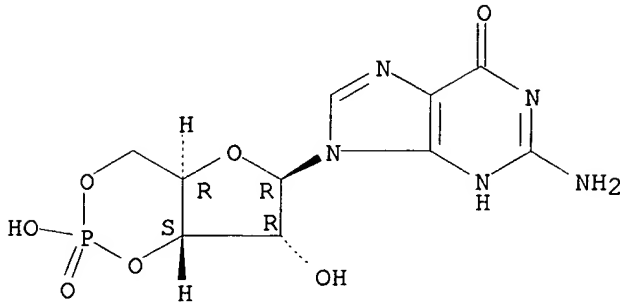
AN 2001:308836 HCAPLUS
DN 135:17439
TI Bitter taste transduced by PLC-.beta.2-dependent rise in IP3 and .alpha.-gustducin-dependent fall in cyclic nucleotides
AU Yan, Wentao; Sunavala, Gulshan; Rosenzweig, Sophia; Dasso, Max; Brand, Joseph G.; Spielman, Andrew I.
CS Department of Basic Science and Craniofacial Biology, Division of Biological Science, Medicine, New York University College of Dentistry, New York, NY, 10010, USA
SO Am. J. Physiol. (2001), 280(4, Pt. 1), C742-C751
CODEN: AJPHAP; ISSN: 0002-9513
PB American Physiological Society
DT Journal
LA English
AB Current evidence points to the existence of multiple processes for **bitter taste** transduction. Previous work demonstrated involvement of the polyphosphoinositide system and an .alpha.-gustducin (G.alpha.gust)-mediated stimulation of phosphodiesterase in **bitter taste** transduction. Addnl., a **taste**-enriched G protein .gamma.-subunit, G.gamma.13, colocalizes with G.alpha.gust and mediates the denatonium-stimulated prodn. of inositol 1,4,5-trisphosphate (IP3). Using quench-flow techniques, we show here that the **bitter** stimuli, denatonium and strychnine, induce rapid (50-100 ms) and transient redns. in cAMP and cGMP and increases in IP3 in murine **taste** tissue. This decrease of cyclic nucleotides is **inhibited** by G.alpha.gust antibodies, whereas the increase in IP3 is not affected by antibodies to G.alpha.gust. IP3 prodn. is **inhibited** by antibodies specific to phospholipase C-.beta.2 (PLC-.beta.2), a PLC isoform known to be activated by G.beta..gamma.-subunits. Antibodies to PLC-.beta.3 or to PLC-.beta.4 were without effect. These data suggest a transduction mechanism for **bitter taste** involving the rapid and transient metab. of dual second messenger systems, both mediated through a **taste** cell G protein, likely composed of G.alpha.gust/.beta./.gamma.13, with both systems being simultaneously activated in the same **bitter**-sensitive **taste** receptor cell.
IT **60-92-4**, CAMP **7665-99-8**, CGMP
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(bitter taste transduced by PLC-.beta.2-dependent rise in IP3 and .alpha.-gustducin-dependent fall in cyclic nucleotides)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 7665-99-8 HCAPLUS
CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



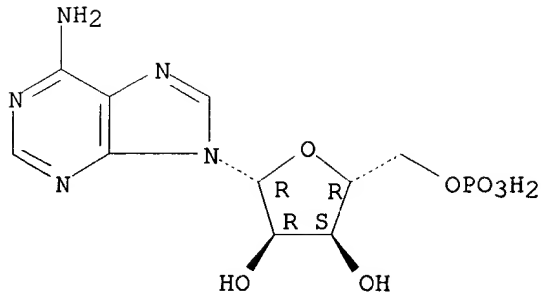
RE.CNT 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 5 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:288653 HCAPLUS
DN 134:294924
TI Food sweetness-upgrading agents containing nucleic acid components and food containing the agents
IN Uchimura, Nobuhiro; Oshima, Hiroshi; Araki, Hiroko; Sakaida, Akemi; Saito, Susumu; Shinhashi, Osamu
PA Kohjin Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001112433	A2	20010424	JP 1999-292150	19991014

AB Sweetness-upgrading agents, which **mask bitterness** and astringency due to artificial sweeteners and give refreshing aftertaste, contain nucleic acid components, e.g. Na 5'-inosinate, Na 5'-adenylate (I), Na 5'-guanylate, Na 5'-uridylate (II), and Na 5'-cytidylate. Food contg. the agents are also claimed. Addn. of I and II to a com. fermented milk prepn. (contg. aspartame) **masked bitterness** and astringency and enhanced sweetness.
IT **4578-31-8 5550-12-9**, Sodium 5'-guanylate
6757-06-8, Sodium 5'-Cytidylate **7545-48-4**, Sodium 5'-uridylate
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(food sweetness-upgrading agents contg. nucleic acid components such as nucleoside monophosphate Na salts)
RN 4578-31-8 HCAPLUS
CN 5'-Adenylic acid, disodium salt (7CI, 8CI, 9CI) (CA INDEX NAME)

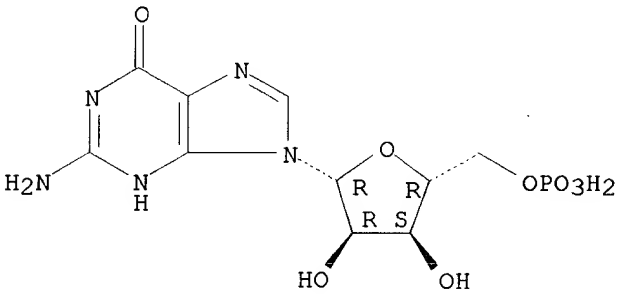
Absolute stereochemistry.



●2 Na

RN 5550-12-9 HCAPLUS
CN 5'-Guanylic acid, disodium salt (7CI, 8CI, 9CI) (CA INDEX NAME)

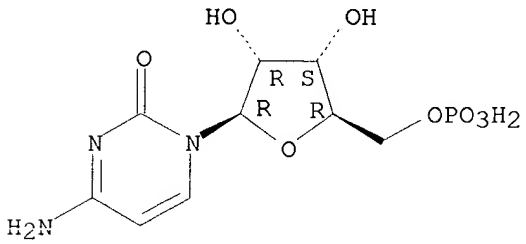
Absolute stereochemistry.



●2 Na

RN 6757-06-8 HCAPLUS
CN 5'-Cytidylic acid, disodium salt (7CI, 8CI, 9CI) (CA INDEX NAME)

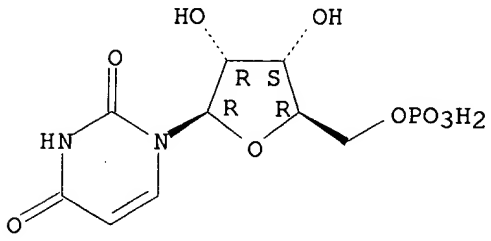
Absolute stereochemistry.



●2 Na

RN 7545-48-4 HCAPLUS
CN 5'-Uridylic acid, sodium salt (8CI, 9CI) (CA INDEX NAME)

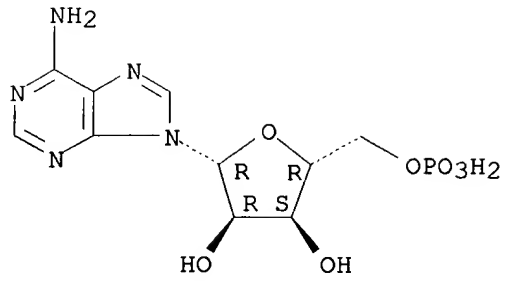
Absolute stereochemistry.



●x Na

L41 ANSWER 6 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:6463 HCAPLUS
DN 135:4817
TI The study of the factors involved in taste of Gyokuro, specially produced high-grade green tea.
AU Horie, Hideki; Ujihara, Tomomi; Kohata, Katsunori
CS Ornamental Plants and Tea, National Research Institute of Vegetables, Kanaya, Shizuoka, 428-8501, Japan
SO Nippon Aji to Nioi Gakkaishi (2000), 7(3), 611-614
CODEN: NNGAEW; ISSN: 1340-4806
PB Nippon Aji to Nioi Gakkai
DT Journal
LA Japanese
AB The relationships between **taste** and components in the Gyokuro green tea were studied. Also, harsh **taste**-decreasing mechanism due to oxalic acid in the Gyokuro green tea was investigated. Polysaccharides from Gyokuro green tea **inhibited** protein-tannin deposition, suggested the effect of polysaccharides on harsh **taste** decrease in Gyokuro tea. Citric acid **inhibited** the formation of calcium oxalate deposition, suggested that org. acid in Gyokuro tea **inhibited** harsh **taste** due to calcium oxalate deposition.
IT **61-19-8**, Adenylic acid, biological studies **29593-02-0**, Guanylic acid
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(factors involved in taste of Gyokuro green tea.)
RN 61-19-8 HCAPLUS
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)

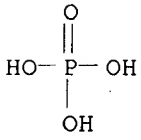
Absolute stereochemistry.



RN 29593-02-0 HCAPLUS
CN Guanylic acid (9CI) (CA INDEX NAME)

CM 1

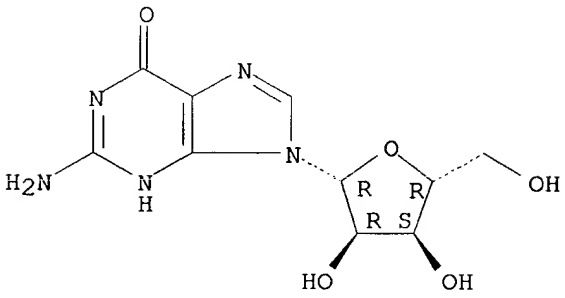
CRN 7664-38-2
CMF H3 O4 P



CM 2

CRN 118-00-3
CMF C10 H13 N5 O5

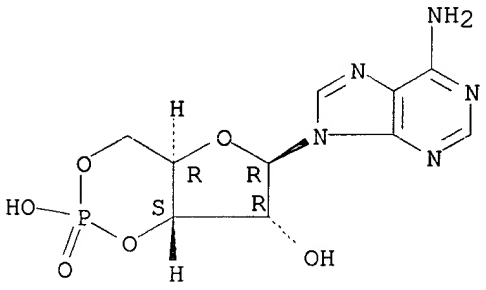
Absolute stereochemistry.



L41 ANSWER 7 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:765266 HCAPLUS
DN 134:83766
TI Prolactin signaling in erythrophores and xanthophores of teleost fish
AU Oshima, Noriko; Goto, Miyoshi
CS Department of Biomolecular Science, Faculty of Science, Toho University, Chiba, 274-8510, Japan
SO Pigment Cell Research, Supplement (2000), 8, 35-40

CODEN: PCSUET; ISSN: 0906-9305
PB Munksgaard International Publishers Ltd.
DT Journal
LA English
AB Prolactin directly affects erythrophores and xanthophores of teleost fish, resulting in pigment dispersion. In the present study, signal transduction elicited by prolactin was examd. using split-tail fin prepns. of the rose **bitterling** (Rhodeus ocellatus ocellatus) and Nile tilapia (Oreochromis niloticus) , and cultured erythrophores and xanthophores from the paradise goby (Rhinogobius giurinus) and rose **bitterling**. When antibodies to the prolactin receptor were added to an ovine prolactin (oPRL) soln., pigment dispersion within cultured cells was significantly **inhibited**, suggesting the existence of a prolactin receptor in the cell membrane. In mammals and birds, prolactin receptors belong to a cytokine receptor superfamily and signal through a tyrosine kinase-mediated pathway. Therefore, the authors examd. the effects of three kinds of protein tyrosine kinase **inhibitors** on pigment dispersion elicited by oPRL. None of those **inhibitors** depressed the response. On the other hand, lithium ions (an **inhibitor** of adenylate cyclase) and H-88 and H-89 (**inhibitors** of protein kinase A) decreased the levels of oPRL-induced pigment dispersion in a dose-dependent manner. In cultured cells treated with cholera toxin for 3 h, the effect of oPRL was irreversible, indicating the possible involvement of Gs protein in the prolactin action. From these results, the authors conclude that cAMP may be a second messenger in the dispersion of pigment induced by prolactin and that a novel protein receptor coupled with a Gs protein may be present in the membrane of erythrophores and xanthophores of teleost fish.
IT **60-92-4**, CAMP
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(prolactin signaling in erythrophores and xanthophores of teleost fish)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.

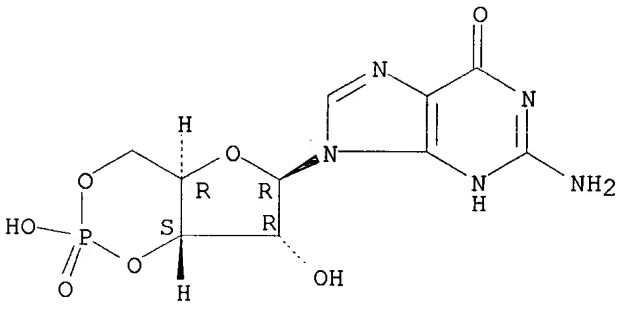


RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 8 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:538979 HCAPLUS
DN 133:235819
TI Sucrose-stimulated subsecond transient increase in cGMP level in rat intact circumvallate taste bud cells

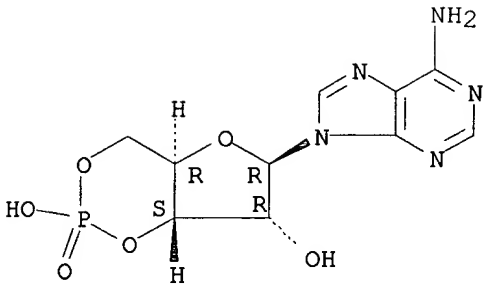
AU Krizhanovsky, Valery; Agamy, Orly; Naim, Michael
CS Institute of Biochemistry, Food Science, and Nutrition, Faculty of Agricultural, Food, and Environmental Quality Sciences, The Hebrew University of Jerusalem, Rehovot, 76-100, Israel
SO Am. J. Physiol. (2000), 279(1, Pt. 1), C120-C125
CODEN: AJPHAP; ISSN: 0002-9513
PB American Physiological Society
DT Journal
LA English
AB Initial sweet **taste** transduction is expected to occur in the subsecond time range. The authors demonstrate a rapid and transient (75-250 ms) increase of cGMP (but not cAMP) level in rat intact circumvallate **taste** cells after stimulation by sucrose. This rapid increase does not occur in nonsensory epithelial cells. Pretreatment with a nonspecific phosphodiesterase (PDE) **inhibitor** (IBMX), a specific cAMP-PDE4 **inhibitor** (denbufylline), or an adenylyl cyclase activator (forskolin) all increased basal cAMP and abolished the sucrose-stimulated cGMP increase at 150 ms. Pretreatment with a sol. guanylyl cyclase **inhibitor** (1H-[1,2,4]oxadiazolo[4,3-a]quinoxalin-1-one) reduced, whereas a specific cGMP-PDE **inhibitor** (zaprinast) abolished, the sucrose-stimulated cGMP increase. It is proposed that cGMP is involved in the initial stage of sugar **taste** transduction and that cGMP is more significant than cAMP at this stage. Activation of sol. guanylyl cyclase and **inhibition** of cGMP-PDE may be involved in the transient elevation of cGMP in response to sucrose stimulation. Moreover, it appears that cAMP level must remain low for sucrose to stimulate an increase in cGMP.
IT **7665-99-8**, CGMP
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(sucrose-stimulated subsecond transient increase in cGMP level in circumvallate taste bud cells)
RN 7665-99-8 HCAPLUS
CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **60-92-4**, CAMP
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(sucrose-stimulated subsecond transient increase in cGMP level in circumvallate taste bud cells in relation to)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.

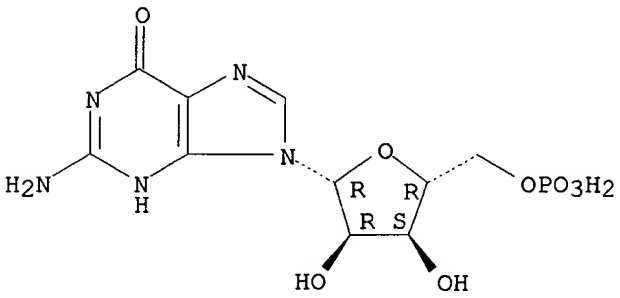


RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 9 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:223186 HCAPLUS
DN 132:318256
TI Responses to umami substances in taste bud cells innervated by the chorda tympani and glossopharyngeal nerves
AU Ninomiya, Yuzo; Nakashima, Kiyohito; Fukuda, Atsuo; Nishino, Hitoo; Sugimura, Tadataka; Hino, Akihiko; Danilova, Victoria; Hellekant, Goran
CS Department of Oral Physiology, Asahi University School of Dentistry, Gifu, 501-0223, Japan
SO J. Nutr. (2000), 130(4S), 950S-953S
CODEN: JONUAI; ISSN: 0022-3166
PB American Society for Nutritional Sciences
DT Journal
LA English
AB The chorda tympani (CT) and glossopharyngeal (GL) nerves of several mammalian species respond differently to umami substances (US) such as monosodium glutamate (MSG), disodium 5'-inosinate (IMP) and disodium 5'-guanylate (GMP). In mice and rhesus monkeys, responses to US are greater in the GL than the CT nerve, with the GL nerve contg. larger nos. of MSG-sensitive fibers. Gurmarin, a sweet response **inhibitor**, suppresses the mouse CT responses to the mixt. of MSG and IMP to .apprx.65% of control levels but not to the metabotropic and ionotropic glutamate agonists 2-amino-4-phosphonobutyrate and N-methyl-D-aspartate. Gurmarin does not **inhibit** any **taste** responses in the GL. In mice, CT responses to MSG may be **masked** by their greater sensitivity to sodium ions. Calcium imaging studies demonstrate that some mouse **taste** cells isolated from the fungiform papilla innervated by the CT respond selectively (as indicated by a rise in intracellular Ca2+ concns.) to MSG and/or IMP or GMP. These MSG responses are not suppressed notably by reducing the Ca2+ concn. of the stimulus soln., suggesting that the obsd. Ca2+ release is from intracellular stores. Measurements of second messengers in the mouse fungiform papilla have revealed consistently that MSG elicits increases in both inositol 1,4,5-trisphosphate and cAMP levels. Together, these results suggest that US may stimulate two different transduction mechanisms in the fungiform papilla. They also suggest that gurmarin-insensitive components of receptors for US, including metabotropic and ionotropic glutamate receptors, may be commonly involved in transduction for umami **taste** in **taste** cells on both anterior and posterior

parts of the tongue.
IT **5550-12-9**, Disodium 5'-guanylate
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(mechanisms involved in responses to umami substances in taste bud cells innervated by chorda tympani and glossopharyngeal nerves)
RN 5550-12-9 HCAPLUS
CN 5'-Guanylic acid, disodium salt (7CI, 8CI, 9CI) (CA INDEX NAME)

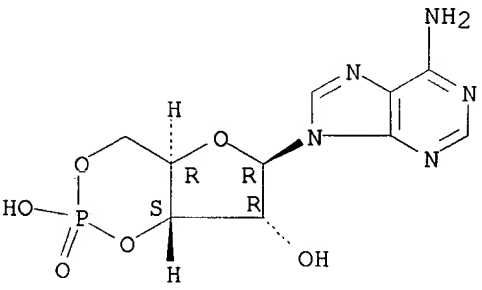
Absolute stereochemistry.



●2 Na

IT **60-92-4**, CAMP
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(mechanisms involved in responses to umami substances in taste bud cells innervated by chorda tympani and glossopharyngeal nerves)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.

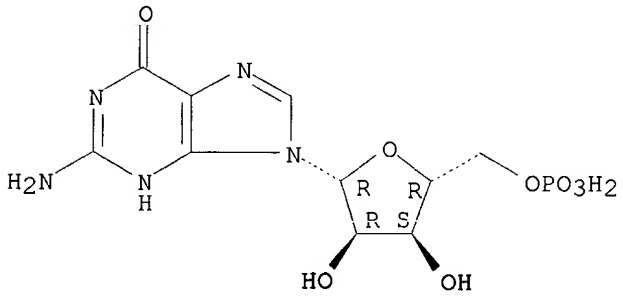


RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

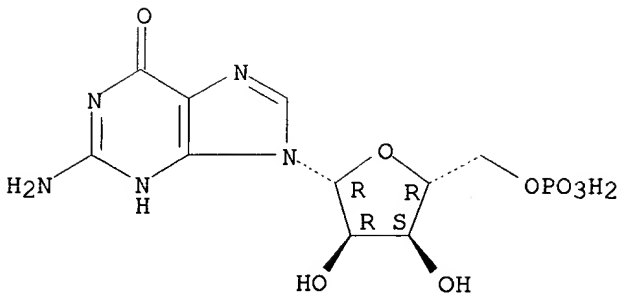
L41 ANSWER 10 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:223182 HCAPLUS
DN 132:320175
TI Physiological studies on umami taste
AU Kurihara, Kenzo; Kashiwayanagi, Makoto
CS Graduate School of Pharmaceutical Sciences, Hokkaido University, Sapporo,

060-0812, Japan
SO J. Nutr. (2000), 130(4S), 931S-934S
CODEN: JONUAI; ISSN: 0022-3166
PB American Society for Nutritional Sciences
DT Journal
LA English
AB The first electrophysiol. studies on umami **taste** were conducted with rats and cats. Unlike humans, these animals did not show a large synergism between monosodium glutamate (MSG) and disodium guanylate (GMP) or disodium inosinate (IMP). The **taste** nerve responses of these animals to umami substances were not differentiated from the salt responses. The canine **taste** system was sensitive to umami substances and showed a large synergism between MSG and GMP or IMP. The umami substances showed no enhancing effects on other basic **tastes**. Amiloride, an **inhibitor** for the response to NaCl, did not **inhibit** the large response induced by the synergism between MSG and the nucleotides, indicating that the response to the umami substances is independent of the response to salt. Single-fiber anal. on the responses of mouse glossopharyngeal nerve and monkey primary **taste** cortex neurons also showed that the responses to umami substances are independent of other basic **tastes**. On the basis of these results, it was proposed that the umami **taste** is a fifth basic **taste**, and that there is a unique receptor for umami substances. Hence, the authors compared the **taste** of agonists for brain glutamate receptors. In humans, the order of intensity of umami **taste** induced by a mixt. of 0.5 mmol/L GMP and 1.5 mmol/L of various agonists was glutamate > ibotenate > L(+)-2-amino-4-phosphonobutyric acid (L-AP4) = (.+-.)1-aminocyclopentane-trans-1,3-dicarboxylic acid (ACPD). Kainate, N-methyl-D-aspartic acid (NMDA) and (RS)-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA), which are agonists for ionotropic receptors, had no umami **taste**. It was concluded that the umami receptor is not identical to any known glutamate receptors; there seems, therefore, to be a unique receptor for umami.
IT **5550-12-9**, Disodium guanylate
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(physiol. studies on umami taste in relation to unique umami receptors vs. glutamate receptors in humans)
RN 5550-12-9 HCAPLUS
CN 5'-Guanylic acid, disodium salt (7CI, 8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



2 Na



●2 Na

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 11 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:53392 HCAPLUS
DN 132:117561
TI Use of prenyltransferase inhibitors for preparing a medicine for treating pathologies resulting from heterotrimeric G protein membrane fixation
IN Prevost, Gregoire; Lonchampt, Marie-Odile
PA Societe de Conseils de Recherches et d'Applications Scientifiques (S.C.R.A.S, Fr.
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000002558	A1	20000120	WO 1999-FR1611	19990705
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2780892	A1	20000114	FR 1998-8730	19980708
	FR 2780892	B1	20010817		
	AU 9946224	A1	20000201	AU 1999-46224	19990705
	EP 1094810	A1	20010502	EP 1999-929396	19990705
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	NO 2001000030	A	20010108	NO 2001-30	20010103
PRAI	FR 1998-8730	A	19980708		
	WO 1999-FR1611	W	19990705		

OS MARPAT 132:117561
AB Prenyltransferase **inhibitors** are used for prepg. a medicine for treating pathologies resulting from prenylation of the .gamma. subunit of G protein. Said diseases comprise in particular diseases related to the

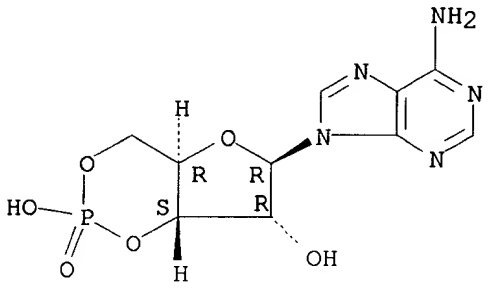
following biol. functions or disorders: smell, **taste**, light perception, neurotransmission, neurodegeneration, endocrine and exocrine gland functioning, autocrine and paracrine regulation, blood pressure, embryogenesis, viral infection, immunol. functions, diabetes, and obesity.

IT **60-92-4**, Cyclic AMP
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(prenyltransferase inhibitor prepn. for treating diseases resulting from heterotrimeric G protein membrane fixation)

RN 60-92-4 HCAPLUS

CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 12 OF 75 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:561432 HCAPLUS

DN 132:103964

TI Species-dependent specificity of platelet aggregation inhibitors from snake venom

AU Lombardi, P.; Pelagalli, A.; Avallone, L.; D'Angelo, D.; Belisario, M. A.; D'Angelo, A.; Staiano, N.

CS Dipartimento di Strutture, Funzioni e Tecnologie Biologiche, Universita di Napoli Federico II, Naples, 80137, Italy

SO J. Comp. Pathol. (1999), 121(2), 185-190
CODEN: JCVPAR; ISSN: 0021-9975

PB W. B. Saunders Co. Ltd.

DT Journal

LA English

AB Echistatin, **flavoridin** and kistrin belong to a family of low mol. wt. snake-venom proteins, termed "disintegrins" because of their ability to bind integrin receptors on the cell surfaces. Most disintegrins contain the tripeptide arginine-glycine-aspartic acid (RGD) sequence, which represents a common cell adhesion recognition site. Here the authors report the differing activity of echistatin, **flavoridin** and kistrin on ADP-induced aggregation of platelets from the buffalo, dog and horse. The three disintegrins **inhibited** the aggregation of platelets from all three animal species at nanomolar concns. Echistatin was the most active of the disintegrins towards equine platelets, but **flavoridin** and kistrin showed a higher potency than echistatin in **inhibiting** aggregation of platelets from the buffalo and dog. Kistrin was 1.6-fold more effective than **flavoridin** in **inhibiting** ADP-induced aggregation of platelets from either the buffalo or dog, whereas **flavoridin** was

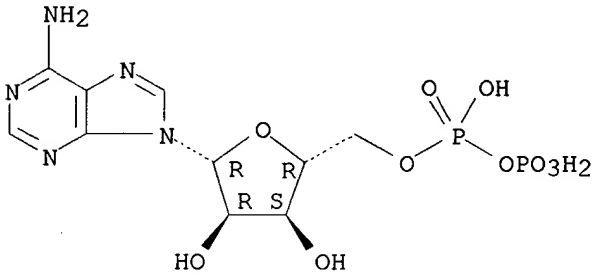
2.1-fold more active than kistrin in **inhibiting** aggregation of equine platelets. The species-dependent platelet sensitivity to these snake-venom proteins may reflect structural differences of the integrin receptor GP IIb/IIIa on the platelet surface in different mammalian species.

IT **58-64-0**, 5'-ADP, biological studies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BIOL (Biological study); PROC (Process)
(-induced platelet aggregation; platelet aggregation inhibitors from snake venom of snake venoms in relation to species)

RN 58-64-0 HCAPLUS

CN Adenosine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 13 OF 75 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:484558 HCAPLUS

DN 131:142607

TI Transduction for sweet taste of saccharin may involve both inositol 1,4,5-trisphosphate and cAMP pathways in the fungiform taste buds in C57BL mice

AU Nakashima, Kiyohito; Ninomiya, Yuzo

CS Dep. Chemistry, School Dentistry, Asahi Univ., Gifu, 501, Japan

SO Cell. Physiol. Biochem. (1999), 9(2), 90-98
CODEN: CEPBEW; ISSN: 1015-8987

PB S. Karger AG

DT Journal

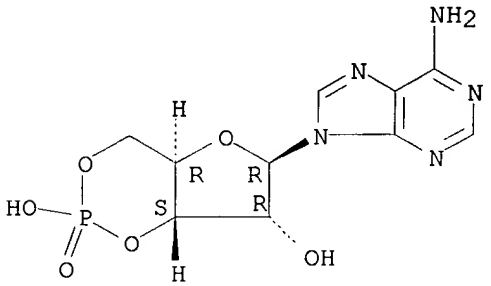
LA English

AB The transduction pathways for sweet and **bitter tastes** were investigated with assays of inositol 1,4,5-trisphosphate (IP3) and cyclic adenosine monophosphate (cAMP) levels in mouse fungiform **taste** buds. Recordings of **taste** responses were also made in the chorda tympani nerve. Stimulation of the tongue with saccharin elicited a significant increase in IP3 levels in the fungiform papilla only at 20 mM but in cAMP levels at 3 and 20 mM, without affecting those of the nonsensory epithelial tissue. Formation of both IP3 and cAMP induced by 20 mM saccharin was suppressed by pretreatment of the tongue with pronase, a proteolytic enzyme which specifically **inhibits** sweet responses. Quinine and denatonium elicited both increases in IP3 levels at a concn. of 20 mM and slight decreases in cAMP levels at concns. of 1-20 mM in the fungiform papilla. Recording of the chorda tympani nerve showed good responses by saccharin, quinine, and denatonium at

concns. of 1 mM and higher. These results suggest that the fungiform **taste** cells in C57BL mice have pronase-sensitive receptors for saccharin, coupled to both the IP3 and the cAMP pathways; the former participates only at high concn., while the latter acts from low to high concns. The results also do not rule out the possibility that a phosphodiesterase-mediated cAMP decrease may be involved in **bitter** transduction for quinine and denatonium.

IT **60-92-4**, CAMP
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(transduction for sweet taste of saccharin may involve both inositol 1,4,5-trisphosphate and cAMP pathways in the fungiform taste buds in C57BL mice)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

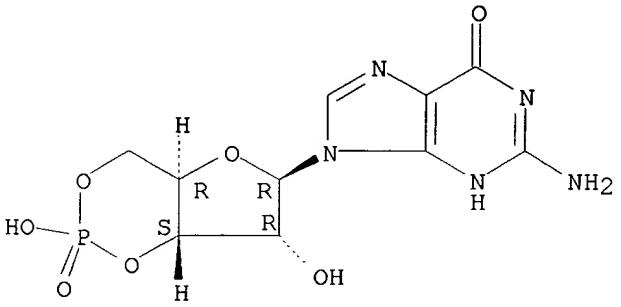
L41 ANSWER 14 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:288997 HCAPLUS
DN 131:114126
TI Possible novel mechanism for bitter taste mediated through cGMP
AU Rosenzweig, Sophia; Yan, Wentao; Dasso, Maximillian; Spielman, Andrew I.
CS Basic Science Division, New York University College of Dentistry, New York, NY, USA
SO J. Neurophysiol. (1999), 81(4), 1661-1665
CODEN: JONEA4; ISSN: 0022-3077
PB American Physiological Society
DT Journal
LA English
AB **Taste** is the least understood among sensory systems, and **bitter taste** mechanisms pose a special challenge because they are elicited by a large variety of compds. We studied **bitter taste** signal transduction with the quench-flow method and monitored the rapid kinetics of the second messenger guanosine 3',5'-cyclic monophosphate (cGMP) prodn. and degrdn. in mouse **taste** tissue. In response to the **bitter** stimulants caffeine and theophylline but not strychnine or denatonium, cGMP levels demonstrated a rapid and transient increase that peaked at 50 ms and gradually declined throughout the following 4.5 s. The theophylline- and caffeine-induced effect was rapid, transient, concn. dependent and gustatory tissue-specific. The effect could be partially suppressed in the presence of the sol. guanylyl cyclase (GC) **inhibitor** 10

.mu.M ODQ and 30 .mu.M methylene blue but not 50 .mu.M LY 83583 and boosted by nitric oxide donors 25 .mu.M NOR-3 or 100 .mu.M sodium nitroprusside. The proposed mechanism for this novel cGMP-mediated **bitter taste** signal transduction is cGMP prodn. partially by the sol. GC and caffeine-induced **inhibition** of one or several phosphodiesterases.

IT **7665-99-8**, Cyclic GMP
RL: BOC (Biological occurrence); BPR (Biological process); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PROC (Process)
(bitter taste signal transduction mediated through cGMP)

RN 7665-99-8 HCAPLUS
CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

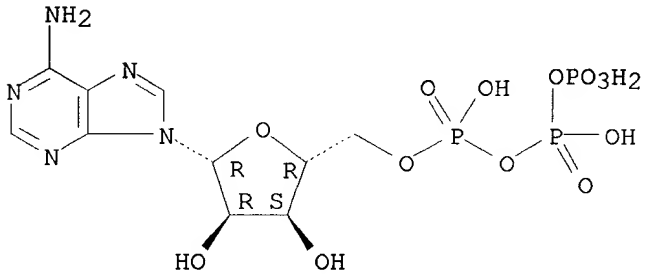
L41 ANSWER 15 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:192781 HCAPLUS
DN 130:323185
TI Multiple receptor sites for nucleotide reception in the labellar taste receptor cells of the fleshfly Boettcherisca peregrina
AU Furuyama, Akira; Koganezawa, Masayuki; Shimada, Ichiro
CS Biological Institute, Graduate School of Science, Tohoku University, Sendai, 980-8578, Japan
SO J. Insect Physiol. (1999), 45(3), 249-255
CODEN: JIPHAF; ISSN: 0022-1910
PB Elsevier Science Ltd.
DT Journal
LA English
AB Nucleotides applied to the labellar chemosensory hair of the fleshfly, B. peregrina, stimulated the **taste** receptor cells. ADP evoked a large response of the sugar receptor cell (sugar response) and GDP evoked a large response of the salt receptor cell (salt response), but the salt response to ADP and the sugar response to GDP were relatively small. While the sugar response to ADP was independent over a wide range, pH 5-9, the salt responses to GDP and ADP were **inhibited** at neutral and alk. pHs, even though they elicited a marked salt response at pH 5-6. Only adenine nucleotides (ADP, AMP, ATP) could stimulate the sugar receptor cell, with an order of stimulating effectiveness of ADP > >AMP .gtoreq. ATP. However, the salt receptor cell could respond significantly not only to GDP but various nucleoside 5'-diphosphates, nucleoside

5'-monophosphates, cyclic nucleotides, and thiamin diphosphate. These results clearly suggest that the specificity of the receptor site reacting with nucleotide in the sugar receptor cell is very different from that in the salt receptor cell.

IT **56-65-5**, 5'-ATP, biological studies **58-64-0**, 5'-ADP, biological studies **58-98-0**, 5'-UDP, biological studies **60-92-4**, Cyclic AMP **61-19-8**, 5'-AMP, biological studies **63-38-7**, 5'-CDP **85-32-5**, 5'-GMP **86-01-1**, 5'-GTP **146-91-8**, 5'-GDP **7665-99-8**, Cyclic GMP
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(multiple receptor sites for nucleotide reception in labellar taste receptor cells of fleshflies)

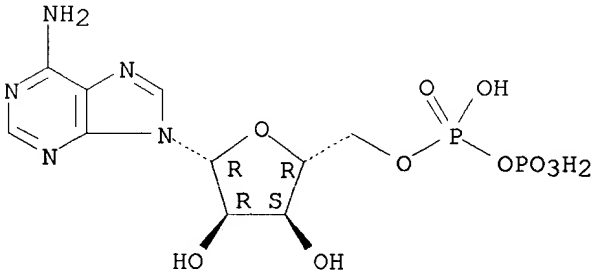
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



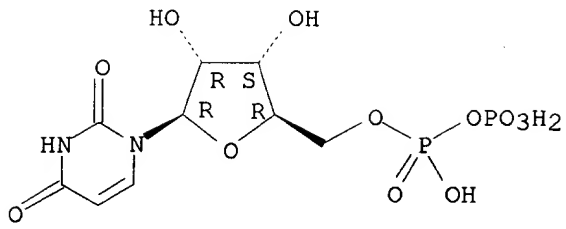
RN 58-64-0 HCAPLUS
CN Adenosine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



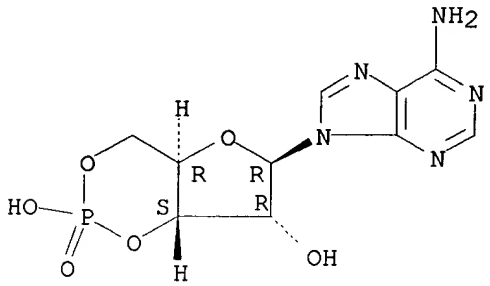
RN 58-98-0 HCAPLUS
CN Uridine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



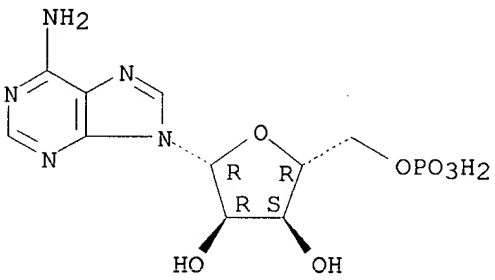
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



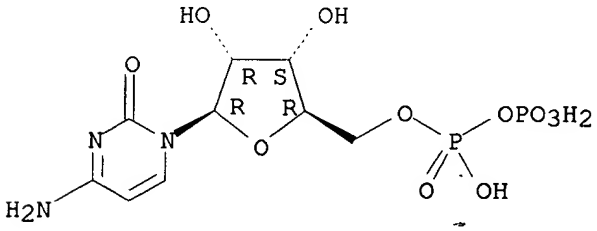
RN 61-19-8 HCAPLUS
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)

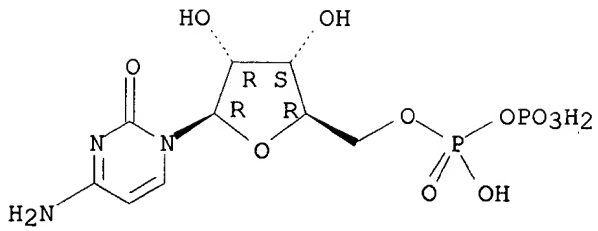
Absolute stereochemistry.



RN 63-38-7 HCAPLUS
CN Cytidine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

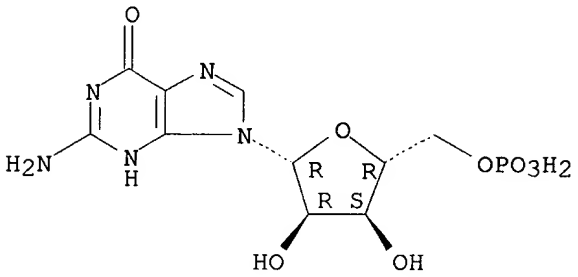
Absolute stereochemistry.





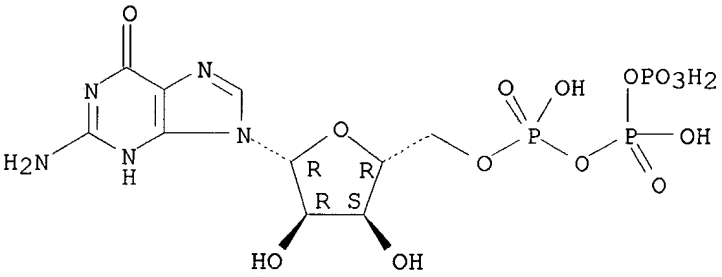
RN 85-32-5 HCAPLUS
CN 5'-Guanylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



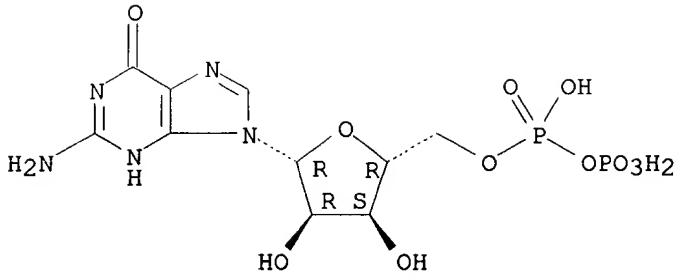
RN 86-01-1 HCAPLUS
CN Guanosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



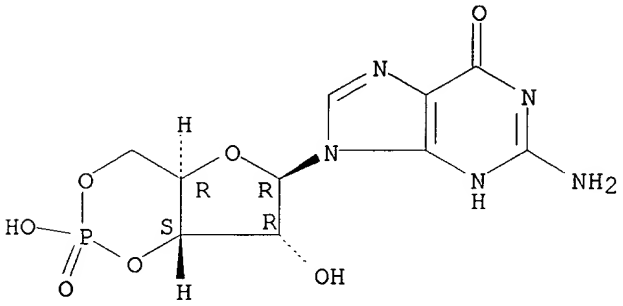
RN 146-91-8 HCAPLUS
CN Guanosine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 7665-99-8 HCAPLUS
CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

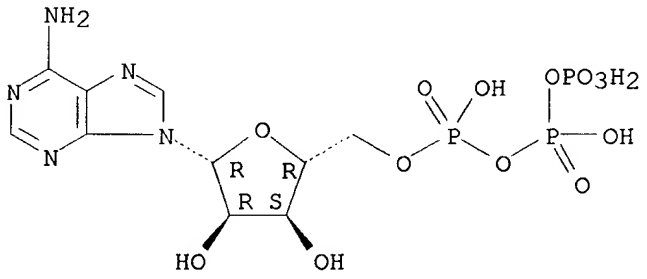
L41 ANSWER 16 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:121941 HCAPLUS
DN 130:310901
TI Taste compounds and reappearance of functional flavoring substances from low-utilized shellfishes
AU Oh, Kwang-Soo; Heu, Min-Soo; Park, Hee-Yul
CS Department of Marine Food Science and Technology, Gyeongsang National University, Tongyeong, 650-160, S. Korea
SO Han'guk Susan Hakhoechi (1998), 31(6), 799-805
CODEN: HSHKAW; ISSN: 0374-8111
PB Korean Fisheries Society
DT Journal
LA English
AB In present paper, we examd. the **flavor** constituents and functionality of 2 stage enzyme hydrolyzates (TSEH) of purplish clam and oyster, and also examd. reappearance of oyster **flavors** through repreparation of individual **flavor** constituents. Total free amino acid contents in TSEH was 1943.0 mg% for purplish clam and 5066.2 mg% for oyster, resp. Major free amino acids in purplish clam exts. were taurine, glutamic acid, glycine, alanine, lysine and arginine, and in oyster exts. were taurine, asparagine, glutamic acid, valine, leucine, alanine, lysine and arginine. As for nucleotides and related compds., AMP was the principal component though small amts. in TSEH of purplish clam and oyster, and also contents of TMAO, total creatinine, and betaine were

41.2, 35.9 and 220.9 mg% for the purplish clam and 3.51, 33.4 and 380.9 mg% the oyster, resp. The major inorg. ions in TSEH of both samples were Na, K, P, Cl and PO4, and the major non-volatile org. acid was succinic acid. The TSEH of purplish clam and oyster revealed very higher **inhibition** effect (84.1 and 77.0%) in ACE **inhibition** than that (0 .apprx. 44.7%) of water and autolytic ext. A synthetic oyster ext., prepd. from pure chems. on the basis of the anal. data on the TSEH, satisfactorily reproduced the **taste** of the natural ext. except for a slight lack of mildness and odor. From the omission test, the major **taste** compds. of oyster ext. were free amino acid and inorg. ions. The quaternary ammonium bases, nucleotides and related compds. seemed to act an auxiliary role in **taste**.

IT **56-65-5**, 5'-ATP, biological studies **58-64-0**, 5'-ADP, biological studies **61-19-8**, 5'-AMP, biological studies
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(taste compds. and reappearance of functional flavoring substances from low-utilized shellfishes)

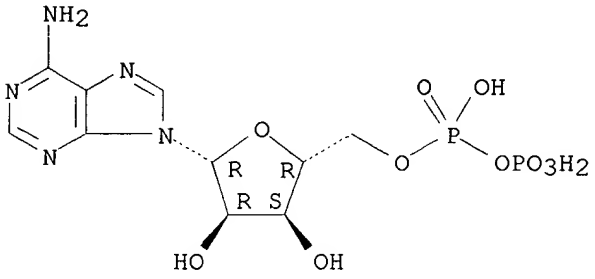
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



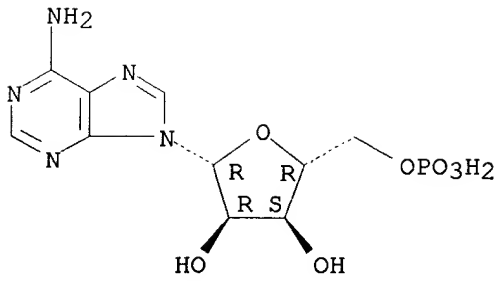
RN 58-64-0 HCAPLUS
CN Adenosine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 61-19-8 HCAPLUS
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)

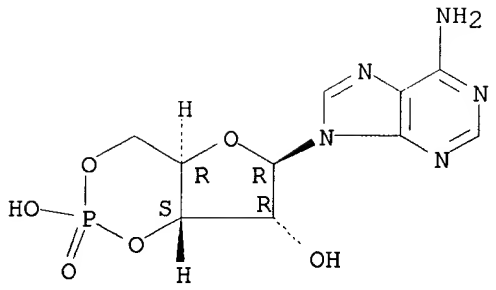
Absolute stereochemistry.



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 17 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:69107 HCAPLUS
DN 130:279554
TI Molecular and physiological evidence for glutamate (Umami) taste transduction via a G protein-coupled receptor
AU Chaudhari, Nirupa; Roper, Stephen D.
CS Department of Physiology and Biophysics, University of Miami School of Medicine, Miami, FL, 33101, USA
SO Ann. N. Y. Acad. Sci. (1998), 855(Olfaction and Taste XII), 398-406
CODEN: ANYAA9; ISSN: 0077-8923
PB New York Academy of Sciences
DT Journal; General Review
LA English
AB A review with 32 refs. Recent mol. analyses have demonstrated that a metabotropic glutamate receptor, mGluR4, is expressed in **taste** buds from rat circumvallate and foliate papillae. Behavioral studies demonstrated that L(+)-2-amino-4-phosphonobutyric acid (L-AP4), an agonist for mGluR4 and related receptors, mimics the **taste** of monosodium glutamate (MSG) in rats. MGluR4 is known to signal through **inhibition** of the cyclic adenosine-5',3' -monophosphate (cAMP) cascade. Circumvallate and foliate **taste** buds exhibit decreases of cAMP levels following stimulation with MSG, and the response is potentiated by 5'-inosine monophosphate, suggesting that it is related to umami **taste**. Further, expts. on mice with the mGluR4 gene knocked out support the interpretation that mGluR4 is a key component in glutamate **taste**. Glutamate may also stimulate **taste** buds through an ionotropic receptor pathway. In patch-clamp studies, glutamate evokes two types of currents, similar to those elicited by N-methyl-D-aspartate (NMDA) and L-AP4. We speculate upon the significance of two glutamate receptor pathways in **taste** buds.
IT **60-92-4**, CAMP
RL: BOC (Biological occurrence); BPR (Biological process); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(mol. and physiol. evidence for glutamate (Umami) taste transduction via G protein-coupled receptor)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

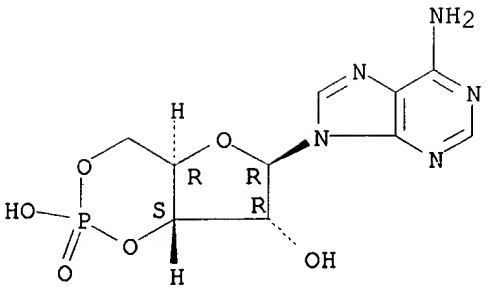
Absolute stereochemistry.



RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 18 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:754530 HCAPLUS
DN 130:122500
TI Pigment-dispersing action of prolactin in fish xanthophores and erythrophores: intracellular signaling system
AU Goto, M.; Oshima, N.
CS Department of Biomolecular Science, Faculty of Science, Toho University, Funabashi, Japan
SO Adv. Comp. Endocrinol., Proc. Int. Congr. Comp. Endocrinol., 13th (1997), Volume 2, 995-998. Editor(s): Kawashima, Seiichiro; Kikuyama, Sakae. Publisher: Monduzzi Editore, Bologna, Italy.
CODEN: 66ZWA3
DT Conference
LA English
AB Erythrophores and xanthophores of teleost fish respond to prolactin (PRL) by pigment dispersion. Using these pigment cells from the rose **bitterling** and paradise goby, we have examd. the possible signal transduction of PRL. In the presence of Li+, known as an **inhibitor** of adenylate cyclase, pigment dispersion by 100 nM ovine PRL (oPRL) was **inhibited** in a dose-dependent manner. A specific **inhibitor** of protein kinase A (PKA), H-89, also **inhibited** the oPRL-induced dispersion of pigment, whereas H-85, the weaker antagonist of PKA, did not. From these results, it is suggested that cAMP may be the intracellular second messenger in the pigment-dispersing action of PRL. Probably, PKA activated by an increase in the concn. of cAMP accelerates the phosphorylation of target protein(s), resulting in pigment dispersion.
IT **60-92-4**, CAMP
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)
(prolactin pigment-dispersing signaling in fish xanthophores and erythrophores)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



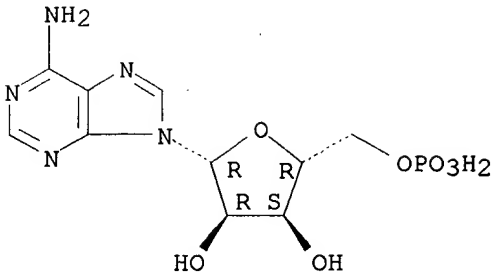
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 19 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:107909 HCAPLUS
DN 128:166668
TI Phosphatase inhibitors and seasoning and foods using them
IN Katsumi, Ikuo; Saito, Takahiro; Kawaguchi, Tomoaki; Yamashita, Kazuhiko
PA Kanegafuchi Chemical Industry Co., Ltd., Japan; Yaegaki Hatsuko Giken K. K.
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 10042844	A2	19980217	JP 1996-199019	19960729

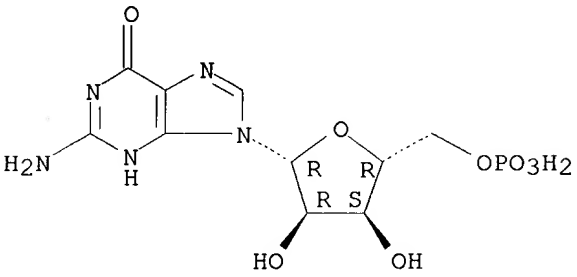
AB The phosphatase **inhibitors** contain tea leaf vein, petiole, stalk, or their exts. Food **taste** deterioration is prevented by adding the **inhibitors** to foods such as meat, fish, or their dried products. The **inhibitors** may be added to to seasonings contg. 5'-ribonucleotide umami components. The seasonings are added to foods such as meat, vegetables, egg, pickles, fish surimi, cod roe, seasoned cod roe, salted fish products, and miso for lasting of the "umami" of 5'-ribonucleotides. The above foods seasoned with the seasonings are also claimed. An ext. of petiole and stalk of tea leaf **inhibited** degrdn. of IMP into inosine in the presence of cucumber phosphatase.
IT **61-19-8**, 5'-AMP, biological studies **85-32-5**, 5'-GMP
RL: BPR (Biological process); FFD (Food or feed use); BIOL (Biological study); PROC (Process); USES (Uses)
(seasonings contg. phosphatase inhibitors for degrdn. prevention of 5'-ribonucleotide umami ingredients)
RN 61-19-8 HCAPLUS
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



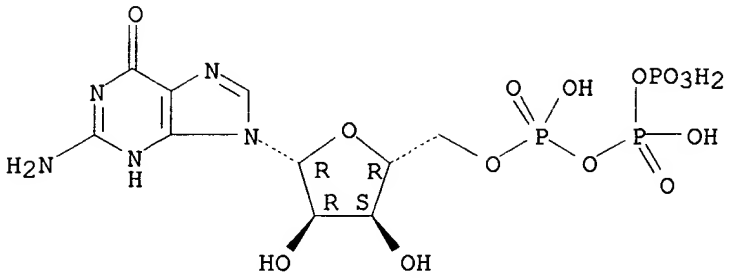
RN 85-32-5 HCAPLUS
CN 5'-Guanylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



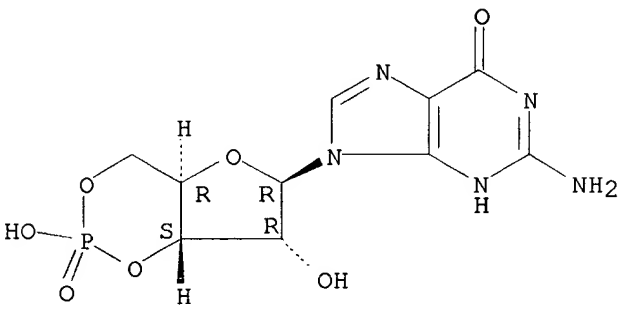
L41 ANSWER 20 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:21887 HCAPLUS
DN 128:113161
TI Comparison of a GTP.gamma.S-induced current and a cGMP-induced current in frog taste cells
AU Okada, Yukio; Fujiyama, Rie; Miyamoto, Takenori; Sato, Toshihide
CS Sch. Dent., Nagasaki Univ., Nagasaki, 852, Japan
SO Nippon Aji to Nioi Gakkaishi (1997), 4(3), 463-466
CODEN: NNGAEW; ISSN: 1340-4806
PB Nippon Aji to Nioi Gakkai
DT Journal
LA Japanese
AB A GTP.gamma.S-induced current and a cGMP-induced current in frog **taste** cells were recorded and compared. GTP.gamma.S (0.5 mM)-induced currents in rod cells were shown. Six cells of 16 rod cells showed 2-phase inward current. The late inward current was **inhibited** by 2 mM Cd2+. Eleven of 19 fork cells showed increase in outward current. This increase of outward current was **inhibited** by 10 mM Ba2+. The 8-Br-cGMP (1 mM)-induced inward current in rod cells were also demonstrated.
IT **86-01-1**, 5'-GTP **7665-99-8**, CGMP
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(GTP.gamma.S-induced current and cGMP-induced current in frog taste cells)
RN 86-01-1 HCAPLUS
CN Guanosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 7665-99-8 HCAPLUS
CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 21 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:436297 HCAPLUS
DN 127:174323
TI cAMP and forskolin **inhibit** potassium currents in rat **taste** receptor cells by different mechanisms
AU Herness, M. Scott; Sun, Xiao-Dong; Chen, Yushe
CS Indiana Univ. Sch. Med., Center Medical Education, Ball State Univ., Muncie, IN, 47306, USA
SO Am. J. Physiol. (1997), 272(6, Pt. 1), C2005-C2018
CODEN: AJPHAP; ISSN: 0002-9513
PB American Physiological Society
DT Journal
LA English
AB In gustatory transduction, adenosine 3',5'-cyclic monophosphate (cAMP) has been suggested to close potassium channels when elevated by sweet stimuli or to open cAMP-gated cation channels when depressed by **bitter** stimuli. These expts. examine the effect of cAMP on whole cell currents from posterior **taste** receptor cells with std. patch-clamp techniques. Elevating cytosolic cAMP by pipet administration, membrane-permeant analogs [8-(4-chlorophenylthio)-cAMP (CPT-cAMP) and dibutyryl-cAMP], or by phosphodiesterase **inhibition** [3-isobutyl-1-methylxanthine (IBMX)] produced poorly reversible **inhibitions** of outward potassium currents by up to 33%.

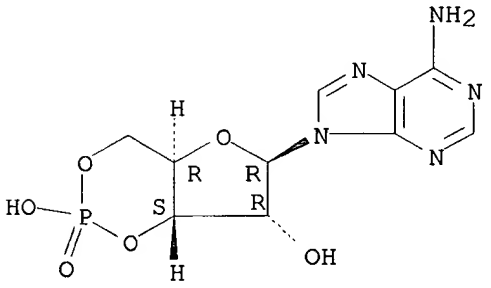
Unexpectedly, middle to high concns. of forskolin (>5 .mu.M) profoundly and reversibly **inhibited** these currents (95%) with greatly accelerated inactivation kinetics. 1,9-Dideoxyforskolin, an ineffective activator of adenylate cyclase, was similarly potent. Kinase **inhibitors** effectively blocked the effects of cAMP elevations produced by IBMX or CPT-cAMP but did not block these forskolin actions. However, at low concns. (5 .mu.M), forskolin reduced potassium currents in a phosphorylation-dependent manner. Collectively, these data suggest that cAMP produces a phosphorylation-dependent **inhibition** of outward potassium currents but that forskolin's actions are independent of cAMP or phosphorylation except at low concn. CAMP was also effective in altering the waveform of the gustatory action potential, implying it may modify transmission of gustatory information to the brain.

IT **60-92-4**, CAMP
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(cAMP reduces potassium currents in rat taste receptor cells by different mechanisms)

RN 60-92-4 HCAPLUS

CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 22 OF 75 HCAPLUS COPYRIGHT 2002 ACS

AN 1997:321747 HCAPLUS

DN 127:47967

TI Bitter taste transduction of denatonium in the mudpuppy Necturus maculosus

AU Ogura, Tatsuya; Mackay-Sim, Alan; Kinnamon, Sue C.

CS Department Anatomy Neurobiology, Colorado State University, Fort Collins, CO, 80523, USA

SO J. Neurosci. (1997), 17(10), 3580-3587
CODEN: JNRSDS; ISSN: 0270-6474

PB Society for Neuroscience

DT Journal

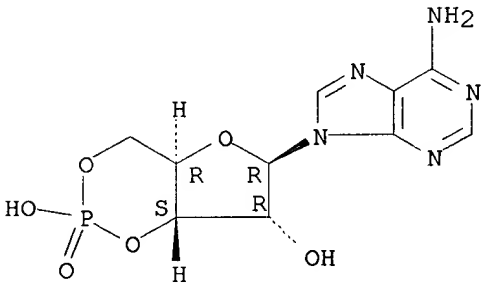
LA English

AB **Bitter** substances are a structurally diverse group of compds. that appear to act via several transduction mechanisms. The **bitter-tasting** denatonium ion has been proposed to act via two different G-protein-regulated pathways, one involving inositol 1,4,5-triphosphate and raised intracellular calcium levels, the other involving phosphodiesterase and membrane depolarization via a cyclic nucleotide-suppressible cation channel. The aim of the present study was to examine these transduction mechanisms in **taste** cells of the mudpuppy Necturus maculosus by calcium-imaging and whole-cell recording.

Denatonium benzoate increased intracellular calcium levels and induced an outward current independently of extracellular calcium. The denatonium-induced increase in intracellular calcium was **inhibited** by U73122, an **inhibitor** of phospholipase C, and by thapsigargin, an **inhibitor** of calcium transport into intracellular stores. The denatonium-induced outward current was blocked by GDP-.beta.-S, a blocker of G-protein activation. Neither resting nor denatonium-induced intracellular calcium levels were affected by **inhibition** of phosphodiesterase (with IBMX) or adenylate cyclase (with SQ22536) or by raising intracellular cyclic nucleotides directly (with cell permeant analogs). The authors' results support the hypothesis that denatonium is transduced via a G-protein cascade involving phospholipase C, inositol 1,4,5-trisphosphate, and raised intracellular calcium levels. The authors' results do not support the hypothesis that denatonium is transduced via phosphodiesterase and cAMP.

IT **60-92-4**, CAMP
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(bitter taste transduction of denatonium in the mudpuppy Necturus maculosus)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



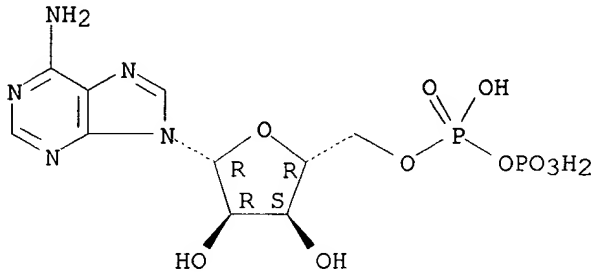
L41 ANSWER 23 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:287076 HCAPLUS
DN 127:15573
TI Isolation and amino acid sequence of flavostatin, a novel disintegrin from the venom of Trimeresurus flavoviridis
AU Maruyama, Kazunori; Kawasaki, Tomihisa; Sakai, Yumiko; Taniuchi, Yuta; Shimizu, Minoru; Kawashima, Hiroyuki; Takenaka, Toichi
CS Inst. Drug Discovery Research, Yamanouchi Pharmaceutical Co., Ltd., Tsukuba, 305, Japan
SO Peptides (Tarrytown, N. Y.) (1997), 18(1), 73-78
CODEN: PPTDD5; ISSN: 0196-9781
PB Elsevier
DT Journal
LA English
AB Flavostatin, a novel disintegrin purified from the venom of Trimeresurus flavoviridis, consists of 68 amino acids, including an Arg-Gly-Asp sequence and 12 Cys residues at positions highly conserved among disintegrins. The N-terminal sequence of flavostatin was identical to those of triflavin and **flavoridin**, previously reported disintegrins from the Trimeresurus **flavoridis** venom.

Differences among the C-terminal sequences of these disintegrins are considered to affect their biol. potencies. Isolated flavostatin **inhibited** ADP, collagen, and thrombin receptor agonist peptide-induced platelet aggregation in human platelet-rich plasma with an IC50 range of 59 to 98 nM. Contrary to expectations, these values were similar to those for triflavin.

IT **58-64-0**, 5'-ADP, biological studies
RL: BAC (Biological activity or effector, except adverse); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(flavostatin from Trimeresurus flavoviridis venom isolation and sequence and platelet aggregation-inhibiting activity)

RN 58-64-0 HCAPLUS
CN Adenosine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

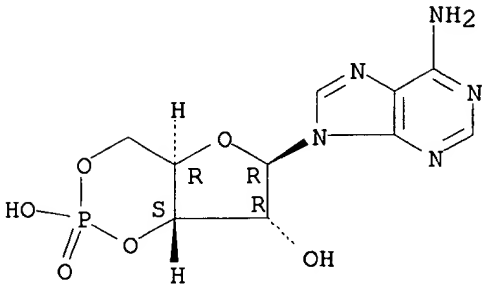


L41 ANSWER 24 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:66425 HCAPLUS
DN 126:115936
TI Vasopressin modulates membrane properties of taste cells isolated from bullfrogs
AU Okada, Yukio; Fujiyama, Rie; Miyamoto, Takenori; Sato, Toshihide
CS School Dentistry, Nagasaki University, Nagasaki, 852, Japan
SO Chem. Senses (1996), 21(6), 739-745
CODEN: CHSED8; ISSN: 0379-864X
PB Oxford University Press
DT Journal
LA English
AB The effect of arginine vasopressin (AVP) on the membrane properties was analyzed in isolated bullfrog **taste** cells using a perforated whole-cell patch-clamp technique. AVP (100 nM) induced three kinds of responses in rod-type **taste** cells: appearance of inward current, **inhibition** of voltage ramp-induced outward current and enhancement of the outward current. The Ca2+-ionophore ionomycin (3 .mu.M) also induced inward current in **taste** cells. A membrane-permeable cAMP analog, 8-CPT-cAMP (0.3 mM) **inhibited** voltage ramp-induced outward current in some rod cells, but enhanced the current in other rod cells. The results suggest that AVP may increase either intracellular Ca2+ level or cAMP level in **taste** cells, modulating the membrane excitability.

IT **60-92-4**, CAMP
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(vasopressin modulates membrane properties of taste cells from bullfrogs)

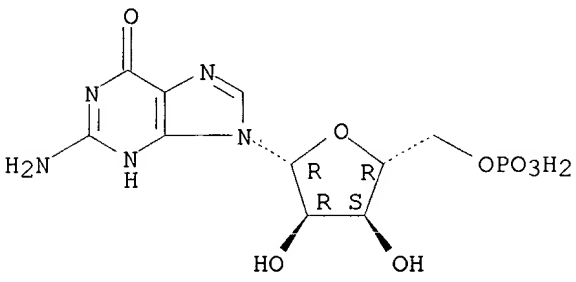
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 25 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:673862 HCAPLUS
DN 126:101886
TI Modification of vertebrate taste cell responses by GMP
AU Miyamoto, Takenori; Sato, Toshihide
CS Sch. Dent., Nagasaki Univ., Nagasaki, 852, Japan
SO Nippon Aji to Nioi Gakkaishi (1996), 3(2), 133-136
CODEN: NNGAEW; ISSN: 1340-4806
PB Nippon Aji to Nioi Gakkai
DT Journal; General Review
LA Japanese
AB A review with 12 refs. on **inhibitory** effects of GMP on salt **taste** responses in the frog, on recording methods for sugar **taste** responses in mice, on 2 pathways of sweet **taste** transduction, and on enhancement of **taste** responses to MSG by GMP in mice.
IT **85-32-5**, 5'-GMP
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(modification of vertebrate taste cell responses by GMP)
RN 85-32-5 HCAPLUS
CN 5'-Guanylic acid (8CI, 9CI) (CA INDEX NAME)

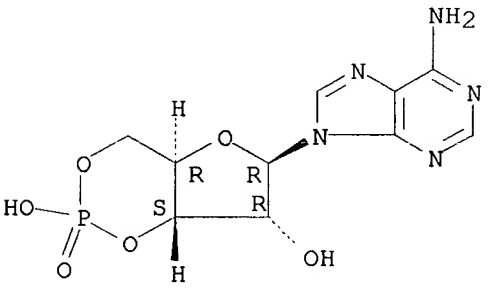
Absolute stereochemistry.



L41 ANSWER 26 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:370811 HCAPLUS

DN 125:30894
TI Dual pathways for sweet taste transduction in isolated gerbil taste cells: cAMP and IP3 mediated mechanisms
AU Uchida, Yoshinori
CS Sch. Dentistry, Nagasaki Univ., Nagasaki, 852, Japan
SO Shika Kiso Igakkai Zasshi (1996), 38(2), 226-234
CODEN: SHKKAN; ISSN: 0385-0137
DT Journal
LA Japanese
AB Mechanisms of sweet **taste** transduction in gerbil **taste** cells were examd. using the conventional whole-cell patch-clamp technique. Outward K+ currents of the **taste** cell induced by depolarizing elec. pulses were reduced by 10 mM Na-saccharin, but were enhanced by amino acid sweeteners of 10 mM D-tryptophan. The outward K+ current was also enhanced by external application of Ca2+-ionophore, 5 .mu.M ionomycin and intracellular application of 5 .mu.M IP3 (inositol-1,4,5-trisphosphate). These results suggest that the sweet **taste** transduction mechanism for Na-saccharin is concerned with an increase of the intracellular cAMP level, while that for D-tryptophan is concerned with an increase of the intracellular IP3 level causing Ca2+ release from the internal stores. Gurmarin, an **inhibitor** of sweet **taste**, antagonized the suppressive effect of Na saccharin on outward K+ currents, but did not affect the enhancing effect of D-tryptophan on outward K+ currents. The results from treatment with gurmarin suggest that the receptor site for Na-saccharin is different from that for D-tryptophan.
IT **60-92-4**, CAMP
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(cAMP- and IP3-mediated mechanisms for sweet taste transduction in isolated taste cells)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

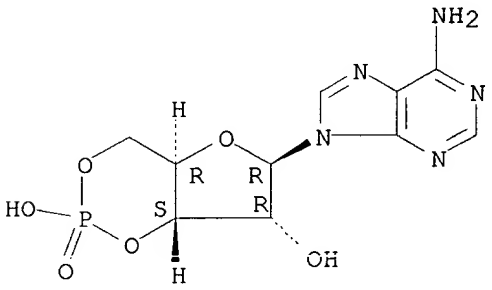
Absolute stereochemistry.



L41 ANSWER 27 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:88743 HCAPLUS
DN 124:171691
TI Changes in IP3 and cytosolic Ca2+ in response to sugars and non-sugar sweeteners in transduction of sweet taste in the rat
AU Bernhardt, Samuel J.; Naim, Michael; Zehavi, Uri; Lindemann, Bernd
CS Dep. Biochem., Food Science and Nutrition, Hebrew Univ. Jerusalem,

Rehovot, 76-100, Israel
SO J. Physiol. (London) (1996), 490(2), 325-36
CODEN: JPHYA7; ISSN: 0022-3751
DT Journal
LA English
AB The transduction pathways of sweet-sensitive cells in rat circumballate (CV) **taste** buds were investigated with assays for inositol 1,4,5-trisphosphate (IP3) and with Ca2+ imaging. Stimulation with the non-sugar sweeteners SC-45647 and saccharin rapidly increased the cellular content of IP3 by 400 pmol (mg protein)-1, while sucrose had a much smaller effect on IP3. As shown previously, sucrose, but not saccharin, increased the content of cyclic adenosine monophosphate (cAMP) of this prepn. Stimulation of isolated CV **taste** buds with SC-45647 increased the cytosolic Ca2+ concn. ([Ca2+]i) by 56.7 .+-. 3.2 nM (n = 181). Due to the non-confocality of the measuring system, these concns. are underestimates. The increase in [Ca2+]i did not require the presence of extracellular Ca2+, suggesting that the Ca2+ release was from intracellular stores. Individual cells responding to the non-sugar sweeteners with Ca2+ release also responded to sucrose and to forskolin with an increase in [Ca2+]i. Such cells did not respond to the **bitter tastant** denatonium chloride. Responses to sucrose were abolished by lowering the Ca2+ concn. of the stimulus soln., indicating Ca2+ uptake from the extracellular medium. The responses of sweet-sensitive cells to forskolin were also abolished when Ca2+ ions were omitted from the stimulus soln. They were partially **inhibited** by the presence of Co2+, Ni2+, D600 (methoxyverapamil) and amiloride, indicating multiple pathways of Ca2+ uptake activated by cAMP. In conclusion, a sweet-sensitive cell of the rat responds to sucrose with an increase in cAMP and Ca2+ uptake, but to non-sugar sweeteners with an increase in IP3 and Ca2+ release. The increase in [Ca2+]i, common to both pathways, is presumably required for synaptic exocytosis and for signal termination.
IT **60-92-4**, CAMP
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(inositol trisphosphate and cytosolic calcium in response to sugars and non-sugar sweeteners in transduction of sweet taste in the rat)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 28 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:943433 HCAPLUS
DN 124:9333

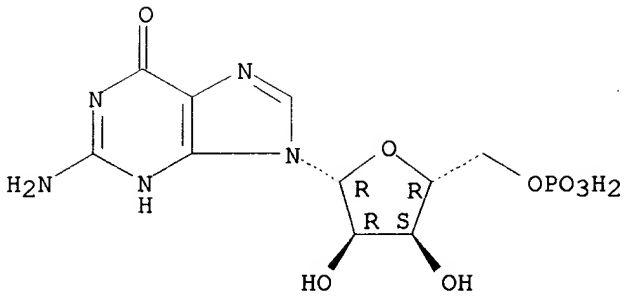
TI Preparation of lithium salt of flavor substances as drugs
IN Shimizu, Chuichi; Takagishi, Kyokazu; Kaneko, Tatsuhiko
PA Takeda Chemical Industries Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07138281	A2	19950530	JP 1993-283096	19931112

AB 5'-Inosinic acid lithium salt (I) is prepd. An antihypertensive, which is effective, nontoxic, and safely administered, contains I. Thus, 62.8 g POCl3 (2.75 equiv of inosine)was added to 458.7 g tri-Et phosphate (16.9 equiv of inosine) with stirring and after cooling to 5.degree., 2.95 g H2O (1.1 equiv) was added dropwise, followed by adding inosine in portions, and the mixt. was allowed to react at 9.degree. for 2.5 h and at 5.degree. for 30 min. H2O (700 mL) was cooled to 0.degree., gradually added to the resulting reaction mixt., stirred at 5.degree. for 1 h, and extd. with .apprx.1 L toluene seven times to give an aq. soln. which was bubbled with air for 15 min to remove toluene and applied to a column packed with 700 mL coconut shell activated charcoal (LH2C carbon). The column was washed with 1,170 mL H2O and eluted with 1,440 mL 3.5% aq. LiOH, collecting the effluent by monitoring the absorbency. The obtained soln. was made pH 9.0 with HCl, filtered to remove a formed ppt., passed to a column of K-1 carbon (ZnCl2 charcoal from saw dust), and the effluent was recovered except the initial 30 mL. The column was washed with 290 mL H2O and the combined effluent (1,070 mL) was concd. to 160 mL at 60.degree. under the reduced to pressure on a water bath, filtered since it turned turbid (white), cooled to 25.degree., left to stand at 25.degree., filtered to give, after washing the resulting crystal with EtOH and drying, 61.8 % I. I was administered to spontaneously hypertensive rats at 30 mg/kg and the blood pressure was lowered by 23, 17, and 18% after 1, 2, and 3 h, resp. The antihypertensive effect was comparable to that of reserpine at the dosage of 30 mg/kg p.o. Other lithium salts prepd. were inosine Li salt (antiulcer agent), guanosine Li salt (antiulcer agent), lithium 5'-guanylate (improver for lipid metab. and anticholesteremic), lithium glutamate (antiinflammatory, analgesic agent, remedy for anoxia, blood platelet aggregation inhibitor), and D-glucosaccharoascorbic acid dilithium salt (antiallergic, analgesic, antiinflammatory agent, and sedative).

IT **170784-49-3P**, Lithium 5'-guanylate
RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(improver for lipid metab.; prepn. of lithium salt of flavor substances as drugs)
RN 170784-49-3 HCAPLUS
CN 5'-Guanylic acid, lithium salt (9CI) (CA INDEX NAME)

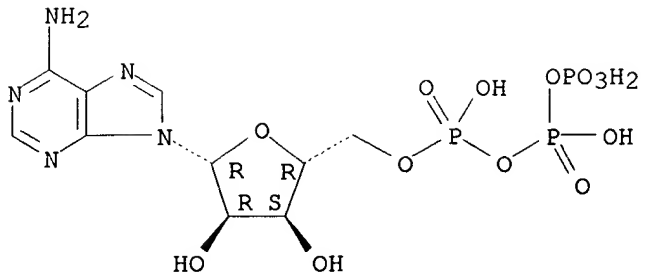
Absolute stereochemistry.



●x Li

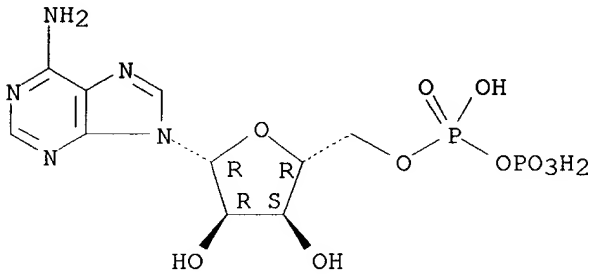
L41 ANSWER 29 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:778836 HCAPLUS
DN 123:284058
TI Components of off-flavor in the muscle of American jumbo squid
AU Yamanaka, Hideaki; Matsumoto, Misuzu; Hatae, Keiko; Nakaya, Hajime
CS Dep. of Food Science and Technology, Tokyo Univ. of Fisheries, Tokyo, 108, Japan
SO Nippon Suisan Gakkaishi (1995), 61(4), 612-18
CODEN: NSUGAF; ISSN: 0021-5392
DT Journal
LA Japanese
AB Sensory tests and anal. on extractive components were carried out to clarify the off-**flavor** components in raw and boiled muscles of American jumbo squid. The results of the sensory tests indicated that strong salty, sour, **bitter**, and fishy **tastes** were characteristic to the off-**flavor** of American jumbo squid, and such **tastes** were the main factor of unacceptability of the raw muscle as food. Boiling of the muscle hardly improved the acceptability. Although volatile basic N (VBN) contents were very high, TMA and polyamines contents were still low, suggesting that the American jumbo squid used in the present expt. was not at the stage of decompn. The high level of VBN was primarily due to ammonia. The pH values (less than 6.7) and the amt. of chloride ion suggest the existence of ammonium chloride in the squid muscle. Therefore, the off-**flavor** of American jumbo squid seems to be due to the saltiness and **bitterness** of ammonium chloride. In addn., the significantly low level of free amino acids was not enough to **mask** the off-**flavor** of American jumbo squid.
IT **56-65-5**, 5'-ATP, biological studies **58-64-0**, 5'-ADP, biological studies **61-19-8**, 5'-AMP, biological studies
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(components of off-flavor in the muscle of American jumbo squid)
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



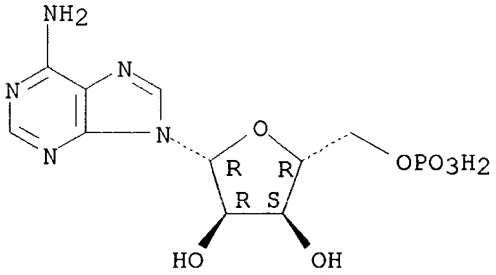
RN 58-64-0 HCAPLUS
CN Adenosine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 61-19-8 HCAPLUS
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 30 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:640606 HCAPLUS
DN 123:52738
TI Role of G-protein in taste responses of the fly Boettcherisca peregrina
AU Koganezawa, Masayuki; Shimada, Ichiro
CS Fac. Sci., Tohoku Univ., Sendai, 980-77, Japan
SO Nippon Aji to Nioi Gakkaishi (1994), 1(3), 190-1
CODEN: NNGAEW; ISSN: 1340-4806
DT Journal
LA Japanese

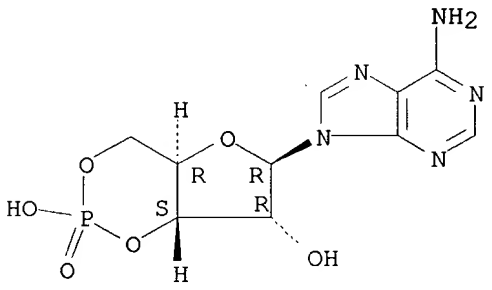
AB Effects of GTP.gamma.S and GDP.beta.S on **taste** responses were investigated in the labellar chemosensillum of B. peregrina. The GTP.gamma.S treatment increased the responses of sugar receptor cells to fructose (Fru), glucose (Glc), L-phenylalanine (Phe), and L-valine (Val) and the responses of salt receptor cells to cAMP whereas the treatment did not affect the responses of salt receptor cells to NaCl. The GDP.beta.S treatment **inhibited** the responses of sugar receptor cells to Fru, Glc, L-Phe, and L-Val and the responses of salt receptor cells to cAMP whereas the treatment did not affect the responses of salt receptor cells to NaCl.

IT **60-92-4**, CAMP
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(G protein role in taste responses of fly)

RN 60-92-4 HCAPLUS

CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 31 OF 75 HCAPLUS COPYRIGHT 2002 ACS

AN 1994:530907 HCAPLUS

DN 121:130907

TI Effects of modulators of the adenylate cyclase system on sweet electrophysiological taste responses in gerbil

AU Schiffman, Susan S.; Suggs, Mark S.; Losee, Michael L.

CS Dep. Psychiatry, Duke Univ., Durham, NC, 27706, USA

SO Pharmacol., Biochem. Behav. (1994), 48(4), 991-8
CODEN: PBBHAU; ISSN: 0091-3057

DT Journal

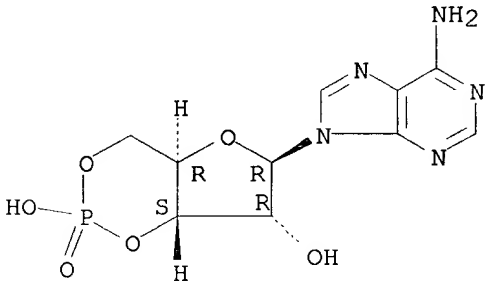
LA English

AB The adenylate cyclase system has been implicated in sweet **taste** transduction. The purpose of this study was to det. whether application of modulators of the adenylate cyclase system to the tongue alters sweet **taste** responses. Integrated chorda tympani (CT) recordings were made in gerbils to sweet **tastants** before and after a 4-min application of four types of modulators of the adenylate cyclase system. The four types of modulators tested were: a) NaF, a compd. that promotes dissocn. of GTP-binding protein; b) forskolin, a powerful stimulant of adenylate cyclase; c) 8-bromoadenosine 3':5'-cyclic monophosphate sodium salt (8BrcAMP) and N6,2'-O-dibutyryladenosine 3':5'-cyclic monophosphate sodium salt (DBcAMP), two membrane-permeable forms of cAMP; and d) 1-(5-isoquinolinylsulfonyl)-2-methylpiperazine dihydrochloride (H-7) and N-(2-[methylamino]ethyl)-5-isoquinolinesulfonamide dihydrochloride) (H-8), which are protein kinase **inhibitors**. The sweet compds. tested

were: sucrose (30 mM and 100 mM), glucose (300 mM), fructose (300 mM), maltitol (150 mM and 300 mM), mannitol (300 mM and 500 mM), sodium saccharin (10 mM), D-tryptophan (6.5 mM), dulcin (0.88 mM, 1.75 mM, and 3.5 mM), and stevioside (0.55 mM and 1.1 mM). NaCl (30 mM and 100 mM) and KCl (300 mM and 500 mM) were used as control stimuli. The main findings were as follows. Application of NaF (20 mM) for 4 min as a rinse significantly enhanced all of the sweet compds. by at least 23%, except for 10 mM sodium saccharin and 6.5 mM D-tryptophan, while all control compds. were suppressed. NaCl (20 mM), which was used as a control for NaF, did not significantly enhance any of the responses when applied as a rinse. 8BrcAMP (1.16 mM) enhanced 30 mM sucrose by 16%, 300 mM glucose by 36%, 300 mM maltitol by 18%, and 6.5 mM D-tryptophan by 24%. DBcAMP had a minimal effect on most of the compds. tested with a 26% enhancement of 300 mM mannitol and a 17% blockage of 300 mM KCl. H-7 (300 .mu.M) enhanced 30 mM sucrose and 1.75 mM dulcin, but this may not be due to an effect on the adenylate cyclase system. H-8 (147 .mu.M) was used in a single trial with no consistent changes. These data indicate that modulation of the adenylate cyclase system can increase the intensity of some sweet **taste** responses.

IT **60-92-4**, CAMP
RL: BIOL (Biological study)
(sweet electrophysiol. responses of chorda tympani nerve regulation by)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 32 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:530906 HCAPLUS
DN 121:130906
TI Modulators of the adenylate cyclase system can alter electrophysiological taste responses in gerbil
AU Schiffman, S. S.; Gatlin, L. A.; Suggs, M. S.; Heiman, S. A.; Stagner, W. C.; Erickson, R. P.
CS Dep. Psychiatry, Duke Univ., Durham, NC, 27706, USA
SO Pharmacol., Biochem. Behav. (1994), 48(4), 983-90
CODEN: PBBHAU; ISSN: 0091-3057
DT Journal
LA English
AB The adenylate cyclase system has been implicated in **taste** transduction. The purpose of this study was to det. whether application of modulators of the adenylate cyclase system to the tongue alter **taste** responses. Integrated chorda tympani (CT) recordings were made in gerbils to **bitter**, sweet, salty, sour, and glutamate

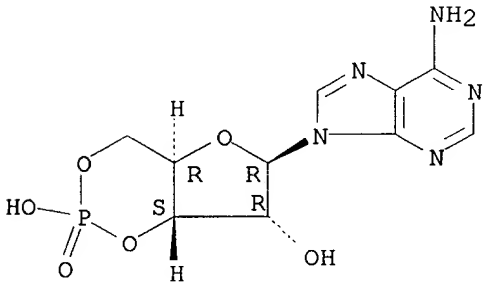
tastants before and after a 4-min application of four types of modulators of the adenylate cyclase system. The four types of modulators tested were: (a) NaF, a compd. that promotes dissocn. of GTP binding protein; (b) forskolin, a powerful stimulant of adenylate cyclase; (c) 8-bromoadenosine 3':5'-cyclic monophosphate sodium salt (8BrcAMP) and N6,2'-O-dibutyryladenosine 3':5'-cyclic monophosphate sodium salt (DBcAMP), two membrane permeable forms of cAMP; and (d) 1-(5-isoquinolinylsulfonyl)-2-methylpiperazine dihydrochloride (H-7) and N-(2-[methylamino]ethyl)-5-isoquinolinesulfonamide dihydrochloride) (H-8), which are protein kinase **inhibitors**. The **taste** compds. tested were: NaCl (30 mM), monosodium glutamate-MSG (50 mM), sucrose (30 mM), HCl (5 mM and 10 mM), KCl (300 mM), quinine HCl (30 mM), MgCl2 (30 mM), erythromycin (0.7 mM and 1 mM), HCl (5 mM and 10 mM), and urea (2 M). The main findings were as follows. NaF (20 mM) significantly **inhibited** responses to **bitter** compds. up to 35% and enhanced the response to sucrose by 30%. NaCl (20 mM), used as a control for NaF, **inhibited** most responses up to 78% with no enhancement of sucrose as seen with NaF. 8BrcAMP (1.16 mM) reduced the responses to **bitter-tasting** quinine HCl, MgCl2, and erythromycin but not to urea. It also blocked the responses to KCl and HCl which have **bitter** components. There was a slight enhancement of the sucrose response. It had no significant effect on NaCl or MSG. A similar trend was found for 5 mM DBcAMP. H-7 (300 .mu.M) slightly altered responses to several stimuli. These data indicate that modulation of the adenylate cyclase system can affect the amplitude of neural responses of some **bitter** and sweet **taste** responses.

IT **60-92-4**, CAMP
RL: BIOL (Biological study)
(modulation of, electrophysiol. taste responses in chorda tympani nerve alteration by)

RN 60-92-4 HCAPLUS

CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

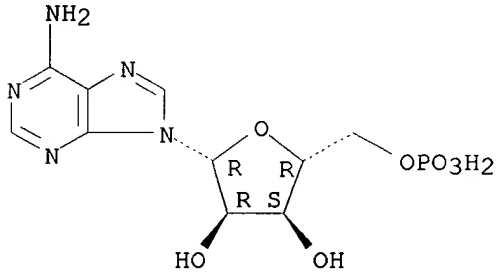
Absolute stereochemistry.



L41 ANSWER 33 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:213148 HCAPLUS
DN 120:213148
TI ATP: a potent prey attractant evoking carnivory
AU Zimmer-Faust, Richard K.
CS Belle W. Baruch Inst. Mar. Biol. Coastal Res., Univ. South Carolina, Columbia, SC, 29208, USA
SO Limnol. Oceanogr. (1993), 38(6), 1271-5
CODEN: LIOCAH; ISSN: 0024-3590

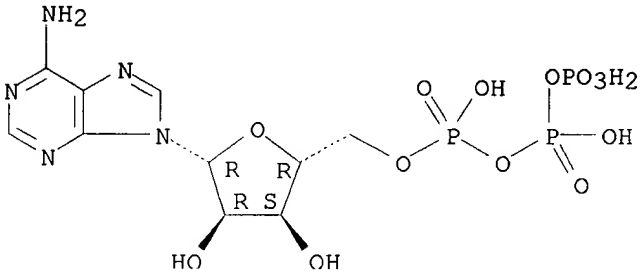
DT Journal
LA English
AB ATP is nearly universal as a carrier of chem. energy in metabolic pathways. This mol. is esp. abundant in metabolically active tissues like muscle but decays rapidly to AMP as cells die. Here, the author reports that ATP stimulates carnivorous feeding by the spiny lobster, Panulirus interruptus, while AMP **inhibits** feeding. Because AMP levels rise as ATP levels fall during initial degrdn. of animal flesh, both ATP stimulation and AMP **inhibition** act to focus foraging for live and recently killed prey. The **taste** and smell of these nucleotides therefore indicate the freshness and edibility of food resources.
IT **61-19-8**, 5'-AMP, biological studies
RL: BIOL (Biological study)
(feeding inhibition by, in spiny lobster)
RN 61-19-8 HCAPLUS
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **56-65-5**, 5'-ATP, biological studies
RL: BIOL (Biological study)
(feeding stimulation by, in spiny lobster)
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 34 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:185719 HCAPLUS
DN 120:185719
TI Gustducin and gustducin .alpha. subunit, production of the .alpha.

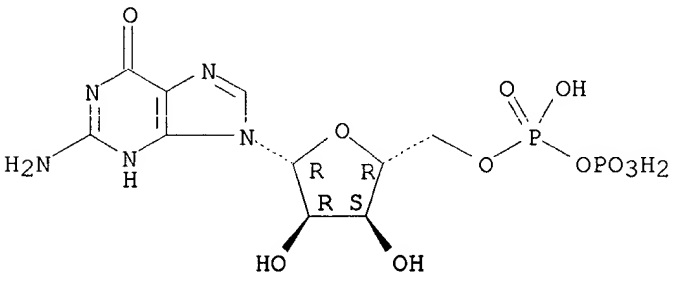
subunit, and its use in methods for identifying taste modifying agents
IN Margolskee, Robert F.
PA USA
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9321337	A1	19931028	WO 1993-US3279	19930408
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5688662	A	19971118	US 1992-868353	19920409
	EP 635064	A1	19950125	EP 1993-909281	19930408
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 07505776	T2	19950629	JP 1993-518454	19930408
	EP 1146124	A2	20011017	EP 2001-108948	19930408
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	US 5817759	A	19981006	US 1995-407804	19950320
	US 6008000	A	19991228	US 1998-124807	19980728
PRAI	US 1992-868353	A	19920409		
	EP 1993-909281	A3	19930408		
	US 1993-45801	B1	19930408		
	WO 1993-US3279	W	19930408		
	US 1995-407804	A1	19950320		

AB A **taste** cell-specific guanine nucleotide binding protein, gustducin, and polynucleotide sequences encoding the .alpha. subunit of rat gustducin are disclosed. Methods of modifying **taste** involve agents that **inhibit** or activate the gustducin .alpha. subunit. Methods for identifying such **taste** modifying agents use the .alpha. subunit of gustducin. CDNA encoding the .alpha. subunit of gustducin was identified, cloned, and sequenced from a rat **taste** cell enriched cDNA library. Gustducin .alpha. subunit mRNA was only detected in **taste** tissue. Antibodies were raised in rabbits.

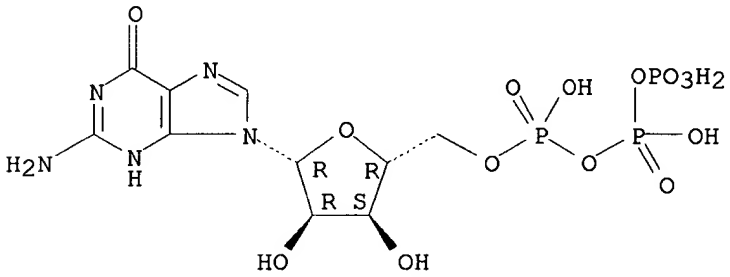
IT **146-91-8P**, GDP
RL: MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in assay for identifying taste modifying agents using gustducin .alpha. chain)
RN 146-91-8 HCAPLUS
CN Guanosine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



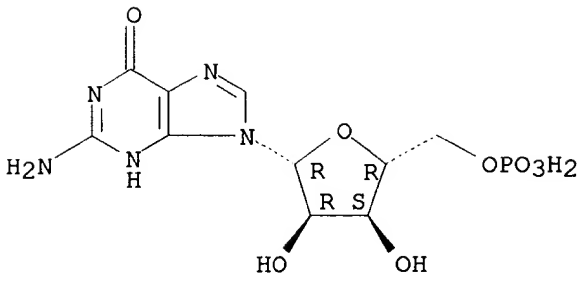
IT **86-01-1**, GTP
RL: BIOL (Biological study)
(in assays for identifying taste modifying agents using gustducin .alpha. chain)
RN 86-01-1 HCAPLUS
CN Guanosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



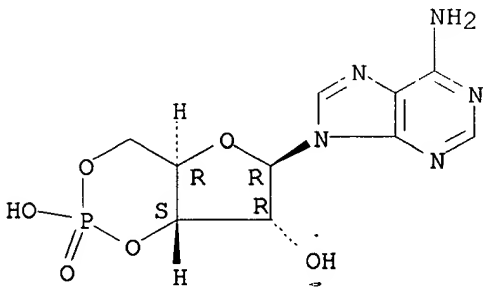
L41 ANSWER 35 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:71242 HCAPLUS
DN 120:71242
TI **Inhibitory** effects of free glutamate, guanosine monophosphate, inosine monophosphate and a **flavor** enhancer on bone marrow genotoxicity of dimethylnitrosamine
AU Lim-Sylianco, Clara Y.; Sylianco-Wu, L.; Botuyan, M. V.
CS Coll. Sci., Univ. Philippines, Quezon City, Philippines
SO Philipp. J. Sci. (1992), 121(1), 25-30
CODEN: PJSCAK; ISSN: 0031-7683
DT Journal
LA English
AB Based on the results of the micronucleus test, glutamic acid, guanosine monophosphate, and inosine monophosphate and a flavor enhancer contg. these nucleotides and glutamic acid did not exhibit mutagenic and clastogenic activity to bone marrow cells of mice. These substances showed antigenotoxic activity against dimethylnitrosamine, a mutagen and carcinogen.
IT **85-32-5**, Guanosine monophosphate
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(dimethylnitrosamine genotoxicity to bone marrow response to)
RN 85-32-5 HCAPLUS
CN 5'-Guanylic acid (8CI, 9CI) (CA INDEX NAME)

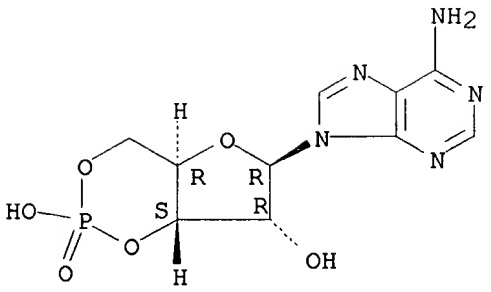
Absolute stereochemistry.



L41 ANSWER 36 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:600230 HCAPLUS
DN 119:200230
TI Cellular transduction of sugar-induced sweet taste
AU Naim, Michael
CS Fac. Agric., Hebrew Univ. Jerusalem, Rehovot, 76-100, Israel
SO Dev. Food Sci. (1993), 32(Food Flavors, Ingredients and Composition), 647-56
CODEN: DFSCDX; ISSN: 0167-4501
DT Journal
LA English
AB Recent studies have shown that **taste** (gustatory) membrane prepns. from rats and pigs contain adenylate cyclase, which can be stimulated by sugars in the presence of GTP. Concomitantly, sucrose stimulation of adenylate cyclase in lingual membranes was **inhibited** by sweet **taste inhibitors** such as copper and zinc ions, as well as by the sweet **taste inhibitor** Me 4,6-dichloro-4,6-dideoxy-.alpha.-D-galactopyranoside (MAD-diCl-Gal), in complete agreement with their effect on electrophysiol. sweet **taste** responses. Furthermore, exposure of intact **tastebud** sheets to sucrose resulted in a two to threefold increase in the cellular accumulation of cAMP, a response which was **inhibited** by 65% following the application of 50 mM MAD-diCl-Gal. Based on cellular, electrophysiol. and biochem. expts. at the membrane level and with intact **taste** tissue, the involvement of cAMP as a second messenger for sugar **taste** transduction is proposed.
IT **60-92-4**, CAMP
RL: BIOL (Biological study)
(in sugar taste transduction)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

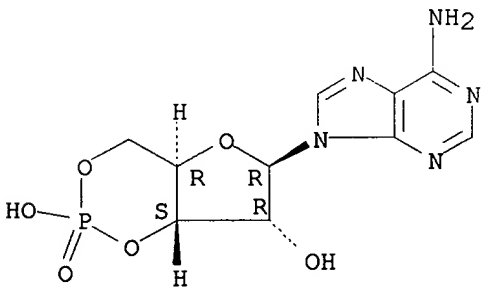
Absolute stereochemistry.

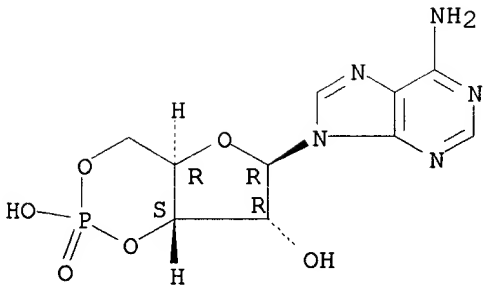




L41 ANSWER 37 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:596038 HCAPLUS
DN 119:196038
TI Proton currents through amiloride-sensitive sodium channels in isolated hamster taste cells: Enhancement by vasopressin and cAMP
AU Gilbertson, Timothy A.; Roper, Stephen D.; Kinnamon, Sue C.
CS Dep. Anat. Neurobiol., Colorado State Univ., Fort Collins, CO, 80523, USA
SO Neuron (1993), 10(5), 931-42
CODEN: NERNET; ISSN: 0896-6273
DT Journal
LA English
AB Amiloride has been suggested to **inhibit** responses to a variety of **taste** stimuli, including salty, sweet, and sour (acid). To test for the involvement of amiloride-sensitive Na+ channels in the transduction of acid stimuli, fungiform **taste** receptor cells were examd. using patch-clamp techniques. Approx. 1/2 of all cells had amiloride-sensitive Na+ currents (INa) with a Ki value near 0.2 .mu.M amiloride. After blocking voltage-gated conductances, cells having amiloride sensitivity were tested for responses to acid stimuli. Over 3/4 of the cells showed an inward proton current (IH+) with an extrapolated reversal potential near approx. +150 mV, which was completely blocked by amiloride (30 .mu.M). Treatment of isolated **taste** cells with AVP caused equiv. increases in both INa and IH+; each effect was mimicked by 8-Br-cAMP. These results indicate that protons permeate amiloride-sensitive Na+ channels in hamster fungiform **taste** cells and contribute to acid transduction.
IT **60-92-4**, CAMP
RL: BIOL (Biological study)
(proton currents through sodium channel in taste bud enhancement by)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

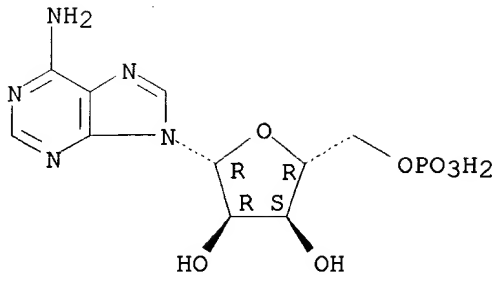
Absolute stereochemistry.





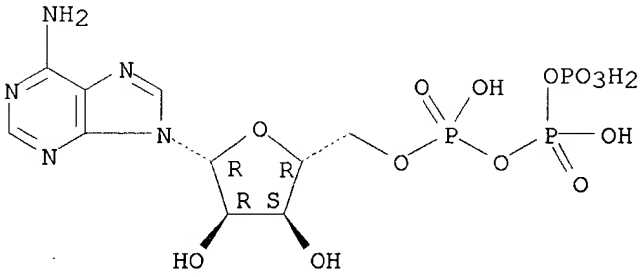
L41 ANSWER 38 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:403594 HCAPLUS
DN 119:3594
TI Purification and properties of membrane-bound 5'-nucleotidase from black rockfish (Sebastes inermis) muscle
AU Marseno, Djagal Wiseso; Hori, Kanji; Miyazawa, Keisuke
CS Fac. Appl. Biol. Sci., Hiroshima Univ., Higashi, 724, Japan
SO J. Agric. Food Chem. (1993), 41(6), 863-9
CODEN: JAFCAU; ISSN: 0021-8561
DT Journal
LA English
AB A membrane-bound 5'-nucleotidase was purified from the black rockfish S. inermis white muscle to homogeneity using Triton X-100 for the solubilization and two steps of affinity chromatog. on Con A and 5'-AMP Sepharose. The enzyme is a glycoprotein, and its active site contains a serine residue. The subunit and native mol. wts. are 67,000 and 265,000, resp. The optimal pH and temp. using IMP as substrate were 8.3 and 45.degree., resp. The enzyme hydrolyzes all nucleoside 5'-monophosphates tested by not other phosphate esters examd. The Vmax/Km values indicated that of the substrates tested the enzyme has the greatest affinity for AMP. The enzyme was **inhibited** by phenylmethanesulfonyl fluoride, diisopropylfluorophosphate, ATP, ADP, adenosine, o-phenantroline, and EDTA. The **inhibition** of EDTA was counteracted by addn. of divalent cations. It was **inhibited** by the lipid antioxidant BHA, at millimolar range, but not by BHT. The results on enzyme regulation are discussed with ref. to the freshness and **flavoring** quality of fish.
IT **61-19-8**, 5'-AMP, biological studies
RL: BIOL (Biological study)
(nucleotidase of black rockfish muscle membrane affinity for)
RN 61-19-8 HCAPLUS
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



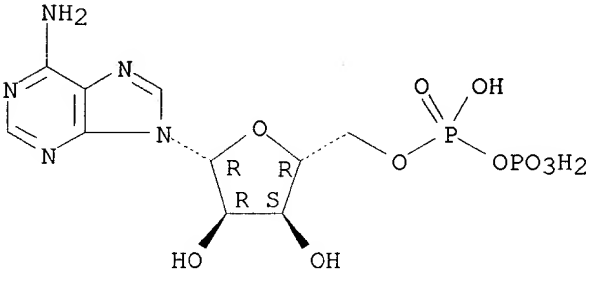
IT **56-65-5**, 5'-ATP, biological studies **58-64-0**, 5'-ADP, biological studies
RL: BIOL (Biological study)
(nucleotidase of black rockfish muscle membrane inhibition by, in magnesium presence)
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 58-64-0 HCAPLUS
CN Adenosine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

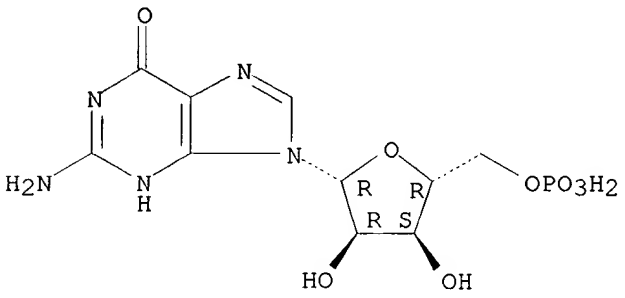
Absolute stereochemistry.



L41 ANSWER 39 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:103343 HCAPLUS
DN 116:103343
TI Taste synergism between monosodium glutamate and 5'-ribonucleotide in mice
AU Ninomiya, Yuzo; Kurenuma, Shuji; Nomura, Takayuki; Uebayashi, Hajimu;

Kawamura, Hirosada
CS Sch. Dent., Asahi Univ., Motosu, 501-02, Japan
SO Comp. Biochem. Physiol., A: Comp. Physiol. (1992), 101A(1), 97-102
CODEN: CBPAB5; ISSN: 0300-9629
DT Journal
LA English
AB Strain differences of mice were found in the **taste** synergism between monosodium L-glutamate (MSG) and disodium 5'-guanylate (GMP). Magnitudes of chorda tympani responses to the mixt. of MSG and GMP over the sum of responses to each component were greater in the order of C3H/HeSlc(C3H) > C57BL/6CrSlc(C57BL) > BALB/cCrSlc(BALB) mice. The greatest synergism was obsd. in response to the mixt. of 0.03M MSG and 0.1 mM GMP, to which responses were about 2.6, 1.8 and 1.4 times greater than the sum of each component in C3H, C57BL and BALB mice, resp. Magnitudes of **inhibition** of MSG and mixt. responses by the lingual treatment of proteolytic enzyme, Pronase E, were greater in the same order of C3H > C57BL > BALB mice as that obsd. in magnitudes of the synergism. These results suggest that there exists quant. differences in receptors responsible for **taste** synergism between MSG and GMP among three mouse strains.
IT **5550-12-9**, Disodium 5'-guanylate
RL: BIOL (Biological study)
(taste synergism between monosodium glutamate and, in mouse, strain differences in)
RN 5550-12-9 HCAPLUS
CN 5'-Guanylic acid, disodium salt (7CI, 8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



●2 Na

L41 ANSWER 40 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:630939 HCAPLUS
DN 115:230939
TI Breads containing coated ribonucleotide salts and their production
IN Suzu, Chihiro; Kotani, Koichi; Toyota, Takeshi
PA Takeda Chemical Industries, Ltd., Japan
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9112724	A1	19910905	WO 1991-JP275	19910301
	W: JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	EP 517917	A1	19921216	EP 1991-905347	19910301
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 05506572	T2	19930930	JP 1991-505011	19910301
PRAI	JP 1990-52278		19900302		
	WO 1991-JP275		19910301		

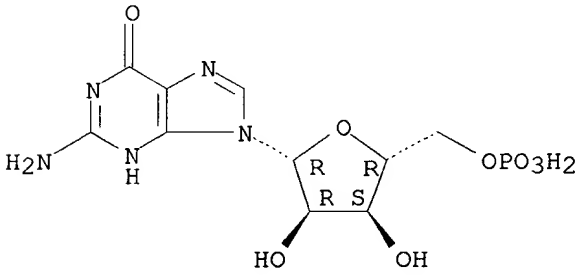
AB Breads with improved **taste** are prepd. using flour contg. fat- or oil-coated 5'-ribonucleotide salts. The coating **inhibits** degrdn. of the nucleotides by nucleotidases.

IT **85-32-5D**, 5'-Guanylic acid, salts
RL: BIOL (Biological study)
(flour contg. fat/oil-coated, for bread prepn., taste improvement in relation to)

RN 85-32-5 HCAPLUS

CN 5'-Guanylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 41 OF 75 HCAPLUS COPYRIGHT 2002 ACS

AN 1991:469137 HCAPLUS

DN 115:69137

TI Gustatory neural responses in preweanling mice

AU Ninomiya, Yuzo; Tanimukai, Tsutomu; Yoshida, Sadahiro; Funakoshi, Masaya

CS Sch. Dent., Asahi Univ., Hozumi, 501-02, Japan

SO Physiol. Behav. (1991), 49(5), 913-18
CODEN: PHBHA4; ISSN: 0031-9384

DT Journal

LA English

AB **Taste** sensitivity of preweanling mice was studied by examg. responses of the chorda tympani (CT) and glossopharyngeal (GL) nerves to various **taste** stimuli, and was compared to that of adult mice. In mice of 7-10 days of age, compared to that of the CT nerve, the threshold of the GL nerve for monosodium L-glutamate (MSG) was low, but those for sucrose and NaCl were high. Sensitivities to HCl and quinine-HCl were similar between the CT and GL nerves, although that to quinine-HCl was larger in the GL nerve than in the CT nerve in adult mice. Enhancement of MSG responses by addn. of GMP was obsd. in the CT nerve but not in the GL nerve in this age group. In mice of 8-16 wk of age, the threshold of the GL nerve for MSG became higher but that for NaCl became lower. Enhancement of MSG responses by addn. of GMP appeared also in the

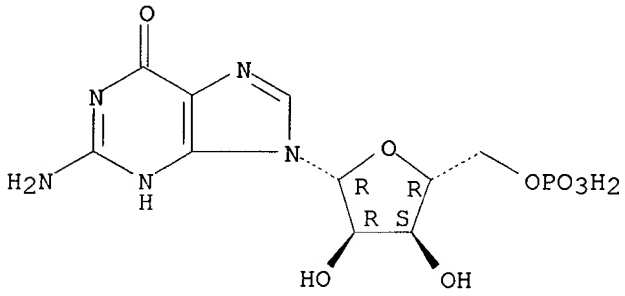
GL nerve. **Inhibition** of NaCl responses by amiloride was obsd. in the CT nerve. Apparently, in mice, the GL nerve is important **taste** input for umami substances esp. during the preweanling period, whereas the CT nerve is for sweet and salty substances. Properties of umami and salt receptor systems change during the postweanling period.

IT **5550-12-9,** Disodium 5'-guanylate
RL: BIOL (Biological study)
(umami taste of monosodium glutamate and, chorda tympani and glossopharyngeal nerve responses to, in preweanling animals)

RN 5550-12-9 HCAPLUS

CN 5'-Guanylic acid, disodium salt (7CI, 8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 42 OF 75 HCAPLUS COPYRIGHT 2002 ACS

AN 1991:446759 HCAPLUS

DN 115:46759

TI Canine taste nerve responses to umami substances

AU Kumazawa, Takashi; Nakamura, Makoto; Kurihara, Kenzo

CS Fac. Pharm. Sci., Hokkaido Univ., Sapporo, 060, Japan

SO Physiol. Behav. (1991), 49(5), 875-81
CODEN: PHBHA4; ISSN: 0031-9384

DT Journal

LA English

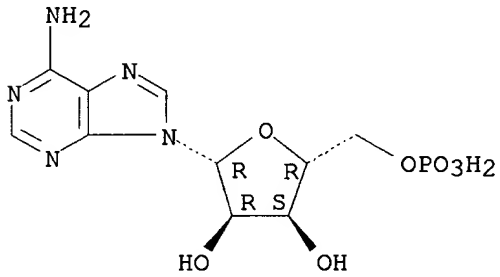
AB The **taste** responses to umami substances such as monosodium glutamate (MSG), GMP, and IMP were recorded from the canine chorda tympani nerve. A large synergism was obsd. between MSG and the nucleotides in most mongrel dogs (type A dog). The extent of the synergism between MSG and the nucleotides was much larger than that obsd. in any other animal examd. except for humans. No synergism was obsd. between nucleotide (GMP) and stimuli other than MSG, such as NaCl, HCl, sucrose, quinine, and glycine. Thus, the dog is a suitable exptl. animal for studies on the responses to umami substances. To differentiate umami and salt components in the responses to umami substances, the effects of amiloride on the responses were examd. Amiloride **inhibited** the response to MSG, but did not **inhibit** the response to GMP alone or those induced by synergism between GMP and MSG. Apparently, GMP acts as an agonist and MSG acts as a modulator for the umami receptor in the dog. The synergism can be explained by an allosteric model where the umami receptor is

assumed to have two binding sites, one for GMP and another for MSG.

IT **61-19-8**, 5'-AMP, biological studies **85-32-5**, 5'-GMP
RL: BIOL (Biological study)
(monosodium glutamate synergism with, as umami substances, in dogs, taste nerve responses to)

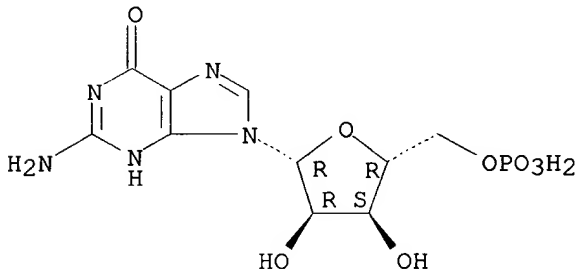
RN 61-19-8 HCAPLUS
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 85-32-5 HCAPLUS
CN 5'-Guanylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 43 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:426771 HCAPLUS
DN 115:26771
TI Generation of cyclic AMP in taste buds of the rat circumvallate papilla in response to sucrose
AU Striem, Benjamin J.; Naim, Michael; Lindemann, Bernd
CS Fac. Agric., Hebrew Univ. Jerusalem, Rehovot, 76100, Israel
SO Cell. Physiol. Biochem. (1991), 1(1), 46-54
CODEN: CEPBEW; ISSN: 1015-8987
DT Journal
LA English
AB Epithelial sheets rich in **taste** buds and free of muscle tissue and von Ebner's washing glands were isolated as a U-shaped cleft which surrounds the circumvallate (CV) papilla of the rat tongue. The sheet of CV tissue from 1 tongue (total protein content: 8-14 .mu.g) was cut in 2 approx. equal parts which were then incubated with the permeant phosphodiesterase **inhibitor** (IBMX; 0.3 mM) and 0 or 150-600 mM

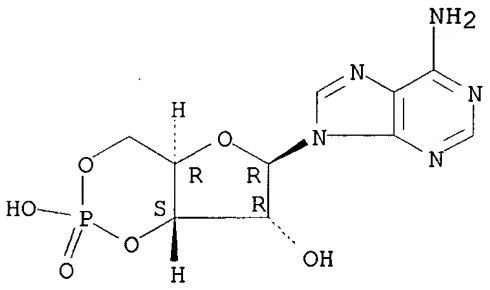
sucrose. After 6 min of incubation, the sheets were washed, the cells permeabilized and their cAMP content detd. by RIA. Paired ests. with tissue from the same animal showed a significant sucrose-induced cAMP prodn. (range 5-20 fmol/.mu.g protein at 600 mM sucrose). This increase in intracellular cAMP was linearly dependent on the sucrose concn. and was suppressed by .apprx.65% when 50 mM of a competitive antagonist of sucrose (Me 4,6-dichloro-4,6-dideoxy-.alpha.-D-galactopyranoside) was added to the sucrose soln. Epithelial sheets free of **taste** buds did not respond to either sucrose or the **inhibitor**. These results are in line with previous suggestions that cAMP may be a 2nd messenger in the transduction of sweet **taste** in the rat.

IT **60-92-4**, CAMP
RL: FORM (Formation, nonpreparative)
(formation of, in tongue taste buds, sucrose effect on)

RN 60-92-4 HCAPLUS

CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 44 OF 75 HCAPLUS COPYRIGHT 2002 ACS

AN 1991:119400 HCAPLUS

DN 114:119400

TI Canine taste nerve responses to monosodium glutamate and disodium guanylate: differentiation between umami and salt components with amiloride

AU Nakamura, Makoto; Kurihara, Kenzo

CS Fac. Pharm. Sci., Hokkaido Univ., Sapporo, Japan

SO Brain Res. (1991), 541(1), 21-8
CODEN: BRREAP; ISSN: 0006-8993

DT Journal

LA English

AB It has been argued whether the umami substances such as monosodium glutamate (MSG) and disodium GMP stimulate the salt receptor or the unique receptor to the umami substances. The effects were examd. of amiloride, which inhibited the canine chorda tympani nerve responses to salts such as NaCl, KCl, and NH4Cl, in a competitive manner, on the nerve responses to the umami substances and differentiated between the umami and salt components. Amiloride shifted the dose-response curves for MSG to a higher concn. region, suggesting that amiloride inhibits the response to MSG in a competitive manner. The response to GMP alone and that induced by synergism between relatively low concns. of MSG and GMP were not inhibited by amiloride. Apparently, the response to MSG alone is the salt response and the response to GMP alone or that induced by the synergism is the umami response. The presence of MSG shifted the dose-response curves

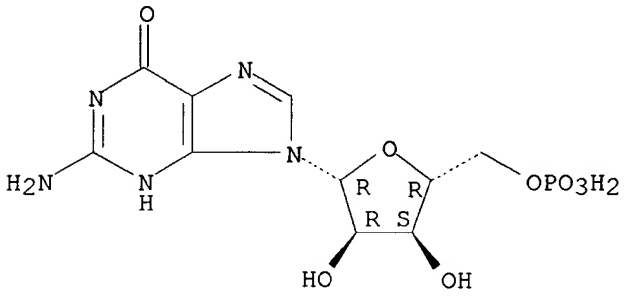
for GMP to a lower concn. region, suggesting that MSG increases the affinity of GMP to umami receptors. The present results favor the conclusion that GMP acts as an agonist and MSG acts as a modulator for the umami receptor in the dog. The synergism can be explained by an allosteric model where the umami receptor is assumed to have 2 binding sites, 1 for GMP and another for MSG.

IT **5550-12-9**, Disodium 5'-guanylate
RL: BIOL (Biological study)
(taste nerve response to, in dog, umami and salt components in relation to)

RN 5550-12-9 HCAPLUS

CN 5'-Guanylic acid, disodium salt (7CI, 8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 45 OF 75 HCAPLUS COPYRIGHT 2002 ACS

AN 1990:421187 HCAPLUS

DN 113:21187

TI Effects of cyclic GMP on the sugar taste receptor cell of the fly Phormia regina

AU Amakawa, Taisaku; Ozaki, Mamiko; Kawata, Kazuko

CS Coll. Gen. Educ., Kobe Univ., Nada, 657, Japan

SO J. Insect Physiol. (1990), 36(4), 281-6
CODEN: JIPHAF; ISSN: 0022-1910

DT Journal

LA English

AB In some sensory receptors of vertebrates, cGMP and(or) cAMP is demonstrated to mediate information from the receptor mol. to the ion channel. The labellar chemosensillum of the fly, P. regina, is a hair-like organ which contains 4 **taste** cells, i.e. the sugar, the salt, the water receptor cells, and the fifth cell. They generate spike potentials of different sizes which are easily discriminated from each other. When a membrane-permeable cGMP analog, dibutyryl cGMP, was applied to the tip of sensillum, large spikes were evoked. Membrane-impermeable nucleotides also evoked the same spikes, but their stimulating effect was less than that of dibutyryl cGMP. Judging from the size of the spikes and feeding behavior of flies to the nucleotides, the spikes were identified as those from the sugar receptor cells. When the mixt. of dibutyryl cGMP and phosphodiesterase **inhibitor**, both of which are membrane permeable, was repeatedly applied to the sensillum tip,

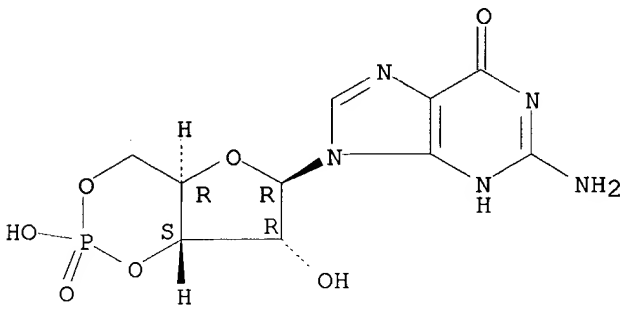
remaining spikes were obsd. after the removal of the mixt. Furthermore, application of dibutyryl cGMP to the sensillum induced extremely slow adaptation of the sugar receptor cell, whereas adaptation of the cell by sugar stimulation is usually rapid. Based upon these results, the possibility is discussed that cGMP works as a 2nd messenger for the sugar receptor excitation of the fly.

IT **7665-99-8**, Cyclic GMP
RL: BIOL (Biological study)
(sugar taste receptor cells of fly regulation by)

RN 7665-99-8 HCAPLUS

CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 46 OF 75 HCAPLUS COPYRIGHT 2002 ACS

AN 1990:52664 HCAPLUS

DN 112:52664

TI GTP and cGMP both enhance, while cAMP depresses, the response to a furanose sugar of taste chemosensilla in the blowfly Protophormia terraenovae

AU Liscia, A.; Crnjar, R.; Angioy, A. M.; Tomassini Barbarossa, I.

CS Dep. Exp. Biol., Univ. Cagliari, Cagliari, Italy

SO Comp. Biochem. Physiol., A: Comp. Physiol. (1989), 94A(2), 257-60
CODEN: CBPAB5; ISSN: 0300-9629

DT Journal

LA English

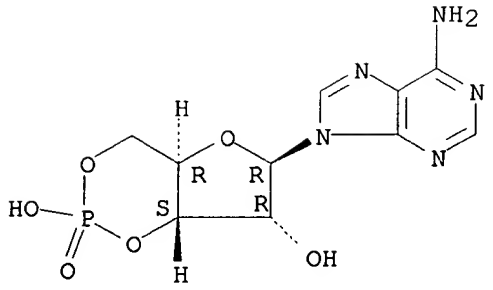
AB The stimulatory effect of a fructose (furanose sugar) soln. on labellar **taste** chemosensilla in the blowfly P. terraenovae is enhanced in the presence of GTP or cGMP. The increase in stimulating effectiveness due to cGMP is double with respect to that due to GTP. Chemosensillar responsiveness to the fructose soln. is enhanced by the addn. of an adenylate cyclase **inhibitor**, but is decreased by the addn. of a phosphodiesterase **inhibitor**; these results are consistent with an **inhibitory** effect of cAMP.

IT **60-92-4**, CAMP **86-01-1**, 5'-GTP **7665-99-8**, CGMP
RL: BIOL (Biological study)
(taste chemosensillum response to sugars regulation by, in blowfly)

RN 60-92-4 HCAPLUS

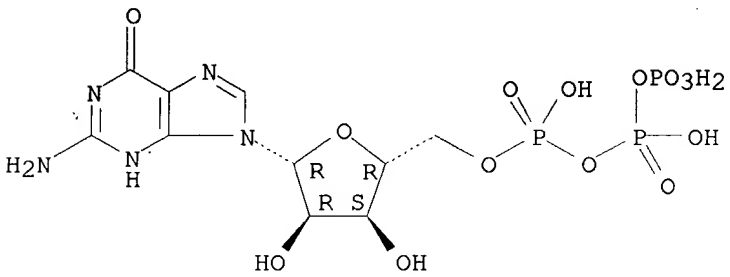
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



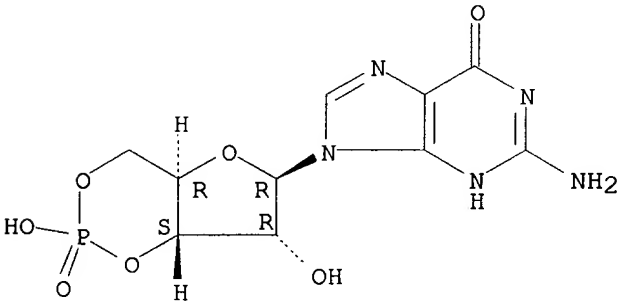
RN 86-01-1 HCAPLUS
CN Guanosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 7665-99-8 HCAPLUS
CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

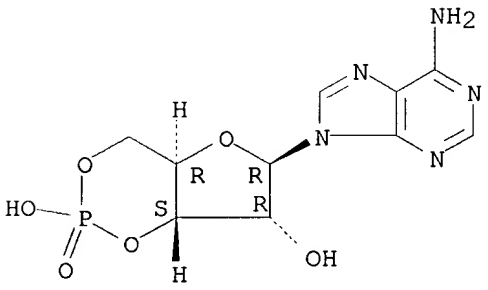
Absolute stereochemistry.



L41 ANSWER 47 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:612534 HCAPLUS
DN 111:212534
TI Relation between a constitutional test, the ability to taste phenylthiocarbamide, and the condition of the cyclic nucleotide system
AU Dulatova, N. Kh.; Kliorin, A. I.; Samoilov, V. O.; Novitskii, A. A.; Reznichek, V. F.; Shelepina, E. P.
CS Voen.-Med. Akad. im. Kirova, Leningrad, USSR
SO Fiziol. Chel. (1989), 15(5), 127-32

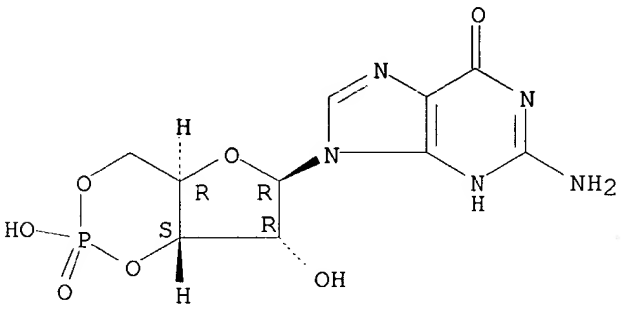
CODEN: FICHDB; ISSN: 0131-1646
DT Journal
LA Russian
AB Phenylthiocarbamide (I), like other **bitter** substances, **inhibited** cAMP phosphodiesterase in brain and tongue tissues of the rat. Humans insensitive to the **bitter taste** of I had increased plasma concns. of cAMP, compared to controls sensitive to I, whereas plasma cGMP was the same in the 2 groups. Apparently, humans insensitive to **bitterness** of I have a genetic disorder in the transport of I to the cytosolic fraction contg. cAMP phosphodiesterase. Thus, **taste** sensitivity to I may be an indication of the status of the cAMP in the human body.
IT **60-92-4**, CAMP **7665-99-8**, CGMP
RL: BIOL (Biological study)
(of blood plasma, phenylthiocarbamide bitter taste sensitivity in relation to, in humans)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 7665-99-8 HCAPLUS
CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

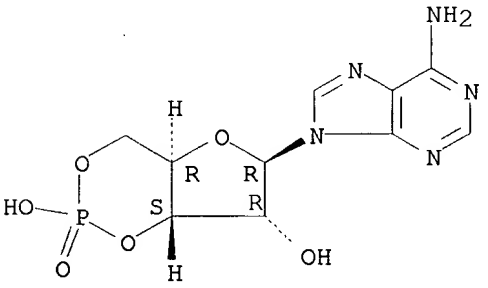
Absolute stereochemistry.



L41 ANSWER 48 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:550873 HCAPLUS
DN 111:150873
TI Effect of interreceptor interaction in the chemoreceptor membranes of Ictalurus nebulosus

AU Levko, A. V.; Volotovskii, I. D.
CS Inst. Fotobiol., Minsk, USSR
SO Dokl. Akad. Nauk BSSR (1989), 33(8), 747-9
CODEN: DBLRAC; ISSN: 0002-354X
DT Journal
LA Russian
AB The interaction between cAMP- and L-leucine receptors in chemoreceptor membranes from **taste** organs of the North american catfish nebulosus was studied. Leucine **inhibited** the specific binding of [3H]cAMP. The cAMP increased the affinity of chemoreceptor mols. for [3H]-L-leucine. These effects are due to protein-protein interactions in the chemoreceptor membrane coupled with structural rearrangement. The mechanisms of regulation of chemoreceptor app. sensitivity to the stimulus are discussed.
IT **60-92-4**, CAMP
RL: BIOL (Biological study)
(leucine binding by chemoreceptor membrane of catfish taste organ increase by)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

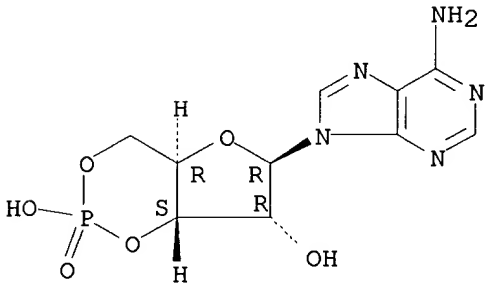
Absolute stereochemistry.



L41 ANSWER 49 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:531174 HCAPLUS
DN 111:131174
TI Effects of GTP, cGMP and cAMP on the salt response of taste labellar chemosensilla in the blowfly Protophormia terraenovae
AU Liscia, A.; Angioy, A. M.; Crnjar, R.; Tomassini Barbarossa, I.; Pietra, P.
CS Dep. Exp. Biol., Univ. Cagliari, Cagliari, Italy
SO Comp. Biochem. Physiol., A: Comp. Physiol. (1989), 93A(3), 523-6
CODEN: CBPAB5; ISSN: 0300-9629
DT Journal
LA English
AB The addn. of GTP and cGMP to an NaCl stimulating soln. has an **inhibitory** effect on cation receptor cell responsiveness of **taste** chemosensilla in the blowfly, P. terraenovae. The responsiveness of the same **taste** sensilla to an NaCl soln. is enhanced by the addn. of an adenylate cyclase **inhibitor**, but decreased by the addn. of a phosphodiesterase **inhibitor**, confirming the **inhibitory** effect of cAMP.
IT **60-92-4**, Cyclic AMP **86-01-1**, 5'-GTP **7665-99-8**, Cyclic GMP

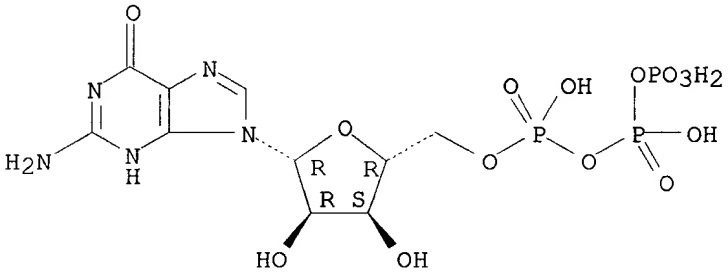
RL: BIOL (Biological study)
(salt response of taste chemosensillum of blowfly response to)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



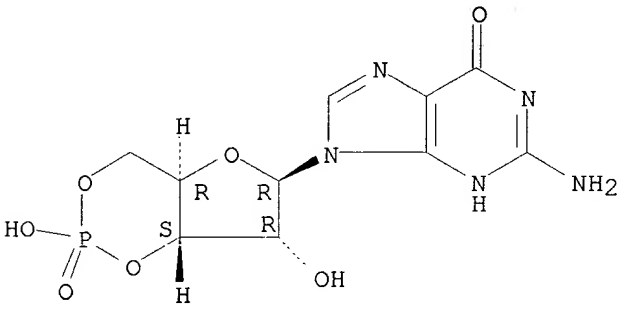
RN 86-01-1 HCAPLUS
CN Guanosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 7665-99-8 HCAPLUS
CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

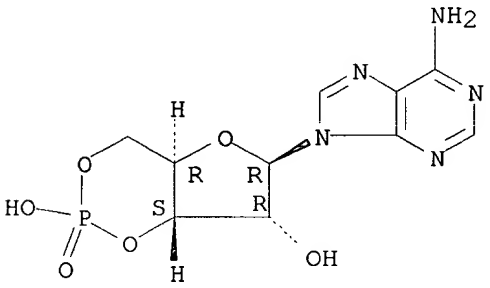
Absolute stereochemistry.



L41 ANSWER 50 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:435621 HCAPLUS

DN 111:35621
TI Sweet tastants stimulate adenylate cyclase coupled to GTP-binding protein in rat tongue membranes
AU Striem, Benjamin J.; Pace, Umberto; Zehavi, Uri; Naim, Michael; Lancet, Doron
CS Fac. Agric., Hebrew Univ. Jerusalem, Rehovot, 76100, Israel
SO Biochem. J. (1989), 260(1), 121-6
CODEN: BIJOAK; ISSN: 0306-3275
DT Journal
LA English
AB Sucrose and other saccharides, which produce an appealing **taste** in rats, were found to significantly stimulate the activity of adenylate cyclase in membranes derived from the anterior-dorsal region of rat tongue. In control membranes derived from either tongue muscle or tongue nonsensory epithelium, the effect of sugars on adenylate cyclase activity was either much smaller or absent. Sucrose enhanced adenylate cyclase activity in a dose-related manner, and this activation was dependent on the presence of guanine nucleotides, suggesting the involvement of a GTP-binding protein (G-protein). The activation of adenylate cyclase by various mono- and di-saccharides correlated with their electrophysiol. potency. Among non-sugar sweeteners, sodium saccharin activated the enzyme, whereas aspartame and neohesperidin dihydrochalcone did not, in correlation with their sweet-**taste** effectiveness in the rat. Sucrose activation of the enzyme was partly **inhibited** by Cu2+ and Zn2+, in agreement with their effect on electrophysiol. sweet-**taste** responses. The results are consistent with a sweet-**taste** transduction mechanism involving specific receptors, a guanine nucleotide-binding protein and the cAMP-generating enzyme adenylate cyclase.
IT **60-92-4**, CAMP
RL: BIOL (Biological study)
(in sweet taste transduction mechanism)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

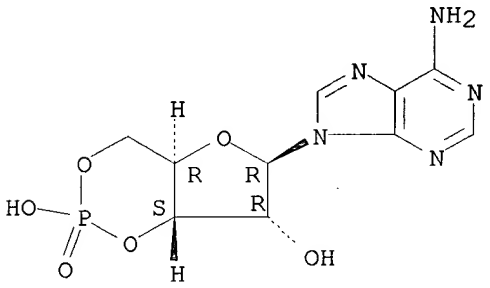
Absolute stereochemistry.



L41 ANSWER 51 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:92681 HCAPLUS
DN 110:92681
TI Amiloride-blockable sodium currents in isolated taste receptor cells
AU Avenet, Patrick; Lindemann, Bernd
CS 2nd Dep. Physiol., Univ. Saarland, Homburg/Saar, D-6650, Fed. Rep. Ger.
SO J. Membr. Biol. (1988), 105(3), 245-55

CODEN: JMBBBO; ISSN: 0022-2631
DT Journal
LA English
AB Isolated **taste** receptor cells from the frog (Rana esculenta and R. ridibunda) tongue were investigated under whole-cell patch-clamp conditions. With the cytosolic potential held at -80 mV, >50% of the cells had a stationary inward Na+ current of 10-700 pA in Ringer's soln. This current was in some cells partially, in others completely, blockable by low concns. of amiloride. With 110 mM Na+ in the external and 10 mM Na+ in the internal soln., the **inhibition** const. of amiloride was (at -80 mV) near 0.3 .mu.M. In some cells the amiloride-sensitive conductance was Na+ specific; in others it passed both Na+ and K+. The Na+/K+ selectivity (estd. from reversal potentials) varied between 1 and 100. The blockability by small concns. of amiloride resembled that of channels found in some Na+-absorbing epithelia, but the channels of **taste** cells showed a surprisingly large range of ionic specificities. Receptor cells, which in situ express these channels in their apical membrane, may be competent to detect the **taste** quality salty. The same cells also express tetrodotoxin-blockable voltage-gated Na+ channels.
IT **60-92-4,** Cyclic AMP
RL: BIOL (Biological study)
(sodium channel-mediated transport by tongue taste receptor cells response to, amiloride-blockable currents in relation to)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.

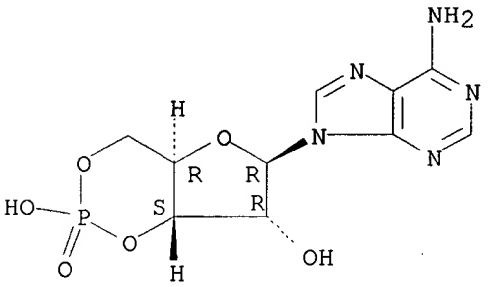


L41 ANSWER 52 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1988:547029 HCAPLUS
DN 109:147029
TI Primary stages of the chemoreceptor act in the taste organs of the bullhead catfish Ictalurus nebulosus
AU Levko, A. V.; Volotovskii, I. D.
CS Inst. Fotobiol., Minsk, USSR
SO Dokl. Akad. Nauk BSSR (1988), 32(8), 757-9
CODEN: DBLRAC; ISSN: 0002-354X
DT Journal
LA Russian
AB The effects of the chem. stimulus leucine on the activity of adenylate cyclase of chemoreceptor membrane from bullhead (I. nebulosus) **taste** organs and on the interaction between cAMP-induced

reorganization of the membrane and its surface potential were studied. Leucine **inhibited** chemoreceptor adenylate cyclase activity and cAMP decreased membrane fluorescence and increased the neg. charge of the receptor cell surface. When the membrane surface was protected by NaCl, cAMP had no effect on membrane fluorescence, thus indicating that structural changes and membrane potential changes in the receptor cell are related. The results are discussed in relation to the initial steps in chem. signal transduction in **taste** cells.

IT **60-92-4,** CAMP
RL: BIOL (Biological study)
(chemoreceptor membrane elec. potential and structure response to)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



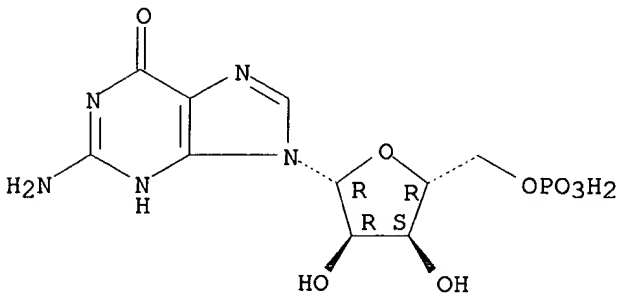
L41 ANSWER 53 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1988:491592 HCAPLUS
DN 109:91592
TI Yeast extract containing oligopeptides, sodium 5'-inosinate, and 5'-guanylate for decreasing unpleasant taste in food
IN Mamoto, Katsuhiro; Yashiro, Jun; Kinoshita, Kazutoshi; Shiraki, Atsuo; Oka, Shunetsuro; Yamamoto, Yukio
PA Sanyo-Kokusaku Pulp Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62289161	A2	19871216	JP 1986-130298	19860606
	JP 02042466	B4	19900921		

AB The yeast ext. which has been autodigested or enzymically decompd. to give a product having oligopeptides .gtoreq.15% is mixed with Na 5'-inosinate (I) and Na 5'-guanylate (II). The compn. is useful in decreasing **bitter taste** of KCl, phosphates, and monoglycerides and smell of fish and meat, and **masking** of unpleasant **tastes** of vegetable proteins. Thus, a yeast ext. after heating was treated with lysozyme, protease, nuclease, and 5'-adenylic deaminase. It was then centrifuged, and the supernatant was spray-dried to give a sample contg. 20% oligopeptides, 1.0% I, and 1.0% II. The test soln. comprising the sample, Polygon C (polyphosphate salts), and aq. NaCl was subjected to functional testing.

IT **5550-12-9**, Sodium 5'-guanylate
RL: BIOL (Biological study)
(food taste control by oligopeptides and)
RN 5550-12-9 HCAPLUS
CN 5'-Guanylic acid, disodium salt (7CI, 8CI, 9CI) (CA INDEX NAME)

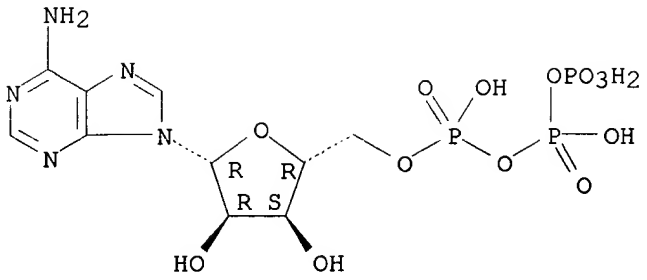
Absolute stereochemistry.



●2 Na

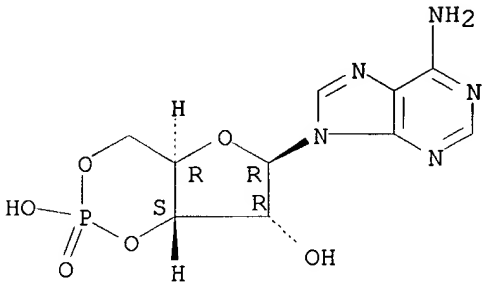
L41 ANSWER 54 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1988:19522 HCAPLUS
DN 108:19522
TI Effects of ATP and cAMP on salt and sugar (responses of chemosensilla in the blowfly)
AU Liscia, A.; Pietra, P.; Angioy, A. M.; Crnjar, R.; Tomassini Barbarossa, I.
CS Inst. Gen. Physiol., Univ. Cagliari, Cagliari, Italy
SO Comp. Biochem. Physiol., A: Comp. Physiol. (1987), 88A(3), 455-9
CODEN: CBPAB5; ISSN: 0300-9629
DT Journal
LA English
AB The addn. of cAMP to stimulating solns. of NaCl, fructose (furanose sugar), sucrose, or glucose (pyranose sugars) decreases the responsiveness of labellar chemosensilla in the blowfly Phormia regina. The addn. of ATP, while decreasing the responsiveness to NaCl or fructose, enhances the responsiveness to glucose and sucrose. The **inhibiting** effect of ATP on NaCl or fructose responses is suppressed by guanosine 5'-O-(2-thiodiphosphate), an **inhibitor** of adenylate cyclase (and thus of cAMP synthesis); moreover guanosine 5'-O-(2-thiodiphosphate) further enhances the increase in response due to ATP when added to the sucrose or glucose solns. These results suggest a possible involvement of cAMP and ATP in the **taste** reception mechanism in the blowfly.
IT **56-65-5**, 5'-ATP, biological studies **60-92-4**, Cyclic AMP
RL: BIOL (Biological study)
(salt and sugar responses of chemosensilla of blowfly response to)
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



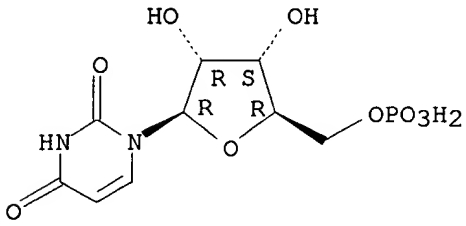
L41 ANSWER 55 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1987:512747 HCAPLUS
DN 107:112747
TI Species-specific inhibitory effect of lupine alkaloids on translation in plants
AU Korcz, Aleksandra; Markiewicz, Maria; Pulikowska, Jadwiga; Twardowski, Tomasz
CS Inst. Bioorg. Chem., Pol. Acad. Sci., Poznan, 61-704, Pol.
SO J. Plant Physiol. (1987), 128(4-5), 433-42
CODEN: JPPHEY
DT Journal
LA English
AB The lupine alkaloids lupanine, 13-OH-lupanine, and augustifoline isolated from the seeds of Lupinus angustifolius cv. Mirela, and com. sparteine have been tested for their effect on selected steps of protein biosynthesis: aminoacylation of tRNAPhe and enzymic binding of Phe-tRNAPhe to poly-U programmed ribosomes. Only one of these two steps, namely the binding reaction, is effected by alkaloids. Following this observation, evidence is presented that the **inhibitory** properties of these alkaloids are species-specific. Higher **inhibitory** effect (2-10-fold) was obsd. on wheat germ system (alkaloid-free) in comparison to the translational system originating from **bitter** lupine (L. albus cv. Pop). Thus, the sensitivity of the system is correlated with the presence of endogenous alkaloids which probably participate in internal interactions.
IT **27416-86-0**, Poly-U
RL: BIOL (Biological study)

(phenylalanine-binding tRNA enzymic binding to, in plants, lupine alkaloids effect on)
RN 27416-86-0 HCAPLUS
CN 5'-Uridylic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 58-97-9
CMF C9 H13 N2 O9 P
CDES 5:B-D-RIBO

Absolute stereochemistry.

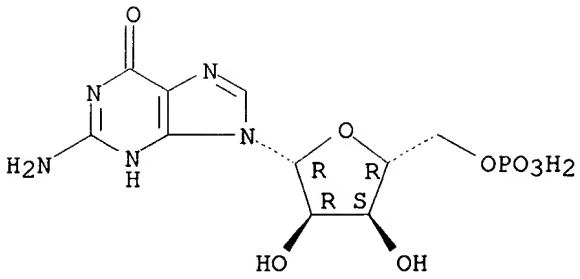


L41 ANSWER 56 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1985:503732 HCAPLUS
DN 103:103732
TI Flavor and aroma improvement in processed marine animal foods
PA Ajinomoto Co., Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60047663	A2	19850315	JP 1983-155329	19830825

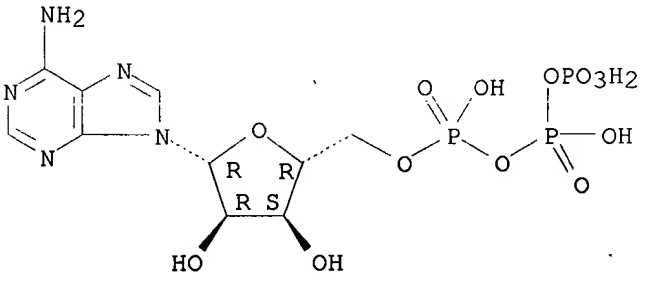
AB Addn. of 5'-inosinates and, optionally, 5'-guanylates to processed marine animal foods to >20% with respect to the content of glutamic acid and/or its salts **masks** fishy odor and **tastes**.
IT **85-32-5D**, salts
RL: BIOL (Biological study)
(fish odor masking by)
RN 85-32-5 HCAPLUS
CN 5'-Guanylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



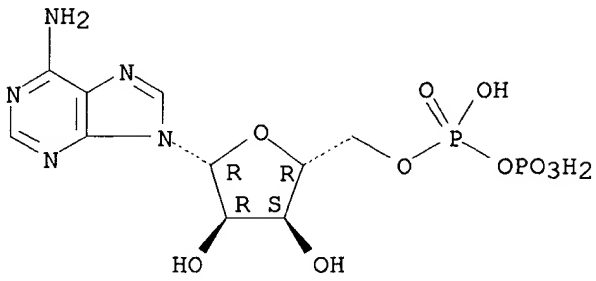
L41 ANSWER 57 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1985:503613 HCAPLUS
DN 103:103613
TI Studies on the manufacture of a spent hen meat hydrolyzate for compound seasoning base
AU Lin, Chin Wen; Su, Hou Pin
CS Dep. Anim. Husb., Natl. Taiwan Univ., Taipei, Taiwan
SO Chung-kuo Nung Yeh Hua Hsueh Hui Chih (1984), 22(3-4), 137-47
CODEN: CKNHAA; ISSN: 0578-1736
DT Journal
LA English
AB Meat from 2-yr-old Leghorn hens was hydrolyzed by an extracellular enzyme ext. from Aspergillus oryzae AH20, for seasoning base prepn. Extracellular enzymes from A. oryzae AH20, contain endopeptidase, exopeptidase and collagenase [9001-12-1] activity. The optimum hydrolytic condition was 55.degree. at a pH value of 6.0 in the presence of 5% NaCl. The activity of the enzymes was enhanced by the presence of Zn2+, Hg2+, Fe2+, Mn2+, Ca2+, Mg2+, but was **inhibited** by Ag+, Al3+, Co2+. After 4 h of incubation at 30.degree., 49.25% of the minced meat was hydrolyzed. Main **flavoring** substances in this hydrolytic soln. were glutamic acid [56-86-0] (30.6 .mu.g/mL), inosine/5'-monophosphate [131-99-7] (0.575 .mu.M), NaCl (0.05%) and total acidity (0.05%). The hydrolytic soln. was concd., freeze dried, ground and mixed with other seasonings to produce compd. seasoning products.
IT **56-65-5**, biological studies **58-64-0**, biological studies **61-19-8**, biological studies
RL: BIOL (Biological study)
(of chicken meat hydrolyzate, for seasoning base manuf.)
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



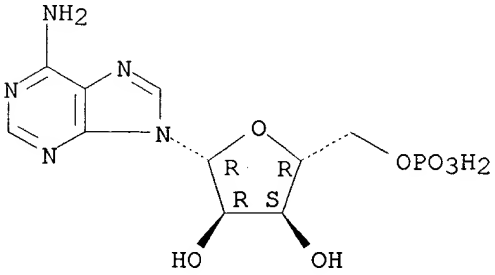
RN 58-64-0 HCAPLUS
CN Adenosine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 61-19-8 HCAPLUS
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 58 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1984:186288 HCAPLUS
DN 100:186288
TI Thyroid hormone **inhibits** purified **taste** bud membrane adenosine 3',5'-monophosphate phosphodiesterase activity
AU Law, J. S.; Henkin, R. I.
CS Med. Cent., Georgetown Univ., Washington, DC, 20007, USA
SO Res. Commun. Chem. Pathol. Pharmacol. (1984), 43(3), 449-62
CODEN: RCOCB8; ISSN: 0034-5164
DT Journal
LA English
AB Thyroid hormone **inhibited** purified bovine **taste** bud membrane cAMP phosphodiesterase (PDE) [9036-21-9] activity in a dose-dependent manner. **Taste** bud membrane PDE was **inhibited** most effectively by thyroxine (T4) [51-48-9], followed in order by triiodothyionine (T3) [6893-02-3], diiodotyrosine (DIT) [300-39-0], and monoiodotyrosine (MIT) [29592-76-5]. Concns. required for 50% **inhibition** (IC50) of enzyme activity were .apprx.1 .times. 10-6, 1 .times. 10-5, 6 .times. 10-4, and >1 .times. 10-3M for T4, T3, DIT, and MIT, resp. Addn. of Zn at physiol. concns greatly augmented the **inhibitory** effects of T4 and T3 at lower concns. (10-7 and 10-6M, resp.), resulting in further **inhibition** of PDE by 40-50%.

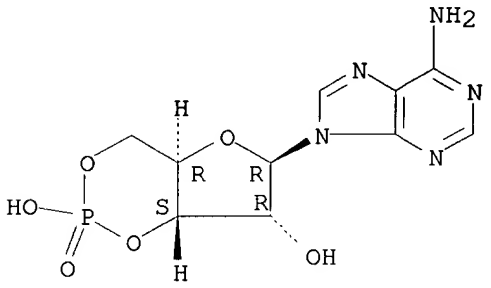
Inhibition of PDE by T4 was relatively tissue selective, as indicated by the IC50 of 1 .times. 10-6M for the **taste** bud, but only 7 .times. 10-6M, 3 .times. 10-5M, and 4 .times. 10-5M, for heart, kidney, and brain PDE, resp. **Inhibition** of **taste** bud membrane PDE by T4 was competitive with substrate cAMP with a Ki of 4 .mu.M. **Inhibition** of PDE, which increases **taste** bud membrane intracellular cAMP, may participate in the action of thyroid hormone in the **taste** process.

IT **60-92-4**
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(metab. of, by taste bud membrane, thyroid hormones effect on, phosphodiesterase in relation to)

RN 60-92-4 HCAPLUS

CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 59 OF 75 HCAPLUS COPYRIGHT 2002 ACS

AN 1983:590462 HCAPLUS

DN 99:190462

TI Bovine **taste** bud cyclic adenosine 3',5'-monophosphate phosphodiesterase is **inhibited** by divalent metal ions

AU Law, J. S.; Henkin, R. I.

CS Med. Cent., Georgetown Univ., Washington, DC, 20007, USA

SO Res. Commun. Chem. Pathol. Pharmacol. (1983), 41(3), 455-72
CODEN: RCOCB8; ISSN: 0034-5164

DT Journal

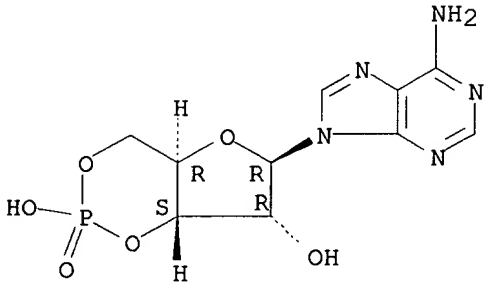
LA English

AB Two fractions from bovine **taste** buds, a sol. (S4) and a membrane (P4B) fraction, were used to evaluate the effects of divalent metal ions on cAMP phosphodiesterase (I) activity. Zn2+, Ni2+, Cu2+, Fe2+, Sn2+, and Hg2+, in the presence of 5 mM Mg2+, **inhibited** I activity, whereas these divalent metal ions alone did not affect enzyme activity if Mg2+ was absent. Zn2+ **inhibited** I activity in S4 and P4B **taste** bud fractions with Ki values of 100 and 90 .mu.M, resp.; **inhibition** was noncompetitive with substrate activity, but competitive with Mg2+. In the presence of Mg2+, Zn2+ **inhibited** **taste** bud I more effectively than any other metal ion studied. **Inhibition** of **taste** bud I by divalent metal ions, esp. Zn2+, suggests a role for these substances in the **taste** process through regulation of the intracellular concn. of **taste** bud cAMP.

IT **60-92-4**
RL: RCT (Reactant)

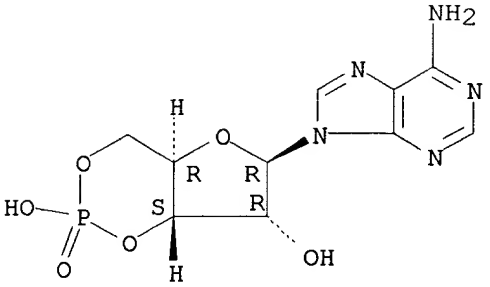
(reaction of, with cAMP phosphodiesterase, kinetics of)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



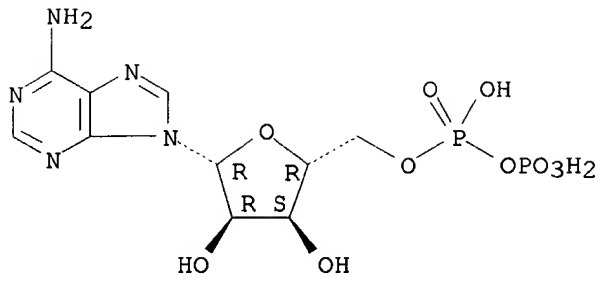
L41 ANSWER 60 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1983:50839 HCAPLUS
DN 98:50839
TI Heterogeneity of sugar receptors group of labellar sensillae of housefly Musca domestica
AU Gritsai, O. B.
CS Mosk. Gos. Univ., Moscow, USSR
SO Khemoretseptsiya Nasekomykh (1981), 6, 52-8
CODEN: KHNADP
DT Journal
LA Russian
AB As previously (Elizarov, Yu. A.; Gritsai, O. B., 1977) obsd., the receptors on the labellar sensillae of a single housefly (M. domestica) can be divided into 3 classes based on the elec. responses to different solns.: (1) salt receptors that respond to solns. contg .gtoreq.0.01-0.1M NaCl, (2) intermediate receptors that respond maximally to intermediate salt concns. and some of which respond to glucose solns., and (3) sugar receptors that respond to glucose solns. The sugar receptors, however, were heterogeneous in their responses to albumin: (1) 1 class was more sensitive to albumin than to glucose, (2) another class had similar sensitivity to these 2 stimuli, and (3) a 3rd class was insensitive to albumin. Addnl., the intermediate receptors were divisible into 2 classes, one sensitive and the other insensitive to albumin. During the 1st 10 min after a 1-h application of a 10-3M cAMP to the **taste** hairs, the response of the sugar receptors to glucose soln. was increased. The cAMP also enhanced the intermediate receptors responses to their stimuli but not that of the salt receptors. Alloxan, an adenylate kinase **inhibitor, inhibited** the activities of the sugar and albumin-sensitive intermediate receptors but not those of the albumin-insensitive intermediate and salt receptors. Imidazole, a phosphodiesterase activator, **inhibited** the activities of the sugar and both intermediate receptor types but not that of salt receptors. The 2',3'-cAMP was without effect.
IT **60-92-4**
RL: BIOL (Biological study)
(taste receptors of labellar sensillae of housefly in response to)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



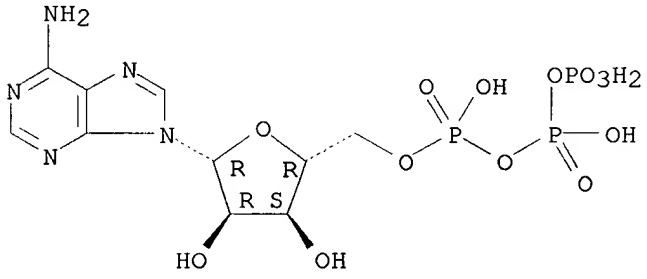
L41 ANSWER 61 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1982:179650 HCAPLUS
DN 96:179650
TI The effect of antioxidants on the fermented sardine and taste compounds of product
AU Lee, Eung Ho; Cho, Soon Yeong; Cha, Yong Jun; Jeon, Joong Kyun; Kim, Se Kwon
CS Dep. Food Sci. Technol., Univ. Busan, Busan, 601-01, S. Korea
SO Han'guk Susan Hakhoechi (1981), 14(4), 201-11
CODEN: HSHKAW; ISSN: 0374-8111
DT Journal
LA English
AB Sardine (Sardinops melanosticta) was treated with BHA [25013-16-5] or Tenox II [42616-73-9] antioxidants at 0.02%, salted with 20% NaCl, and fermented at 25.degree. to give a fermented fish paste product in which the oxidn. of lipids was **inhibited** during 2 mo of storage as compared to marked oxidn. of the lipids in control fish paste prepd. without antioxidants. During the fermn. period, the decompn. of ATP [**56-65-5**] to inosine [58-63-9] and hypoxanthine [68-94-0] occurred. The levels of 5'-IMP [131-99-7], betaine [107-43-7], Me3NO [1184-78-7], and creatinine [60-27-5] in the fermented (with antioxidants) fish paste were 1.9 .mu.mol/g, 4.9 mg%, 1.0 mg%, and 475 mg%, resp. Leucine, glutamic acid, isoleucine, alanine, valine, and lysine comprised 59.4% of total fish paste free amino acids. The relation between the **flavor** of processed fish and the content of free amino acids and 5'-IMP is discussed.
IT **58-64-0**, biological studies
RL: BIOL (Biological study)
(of sardines, fermented paste manuf. effect on, antioxidant treatment in relation to)
RN 58-64-0 HCAPLUS
CN Adenosine 5'-(trihydrogen diphosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **56-65-5**, biological studies
RL: BIOL (Biological study)
(of sardines, fermented paste manuf. effect on, antioxidants treatment in relation to)
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.

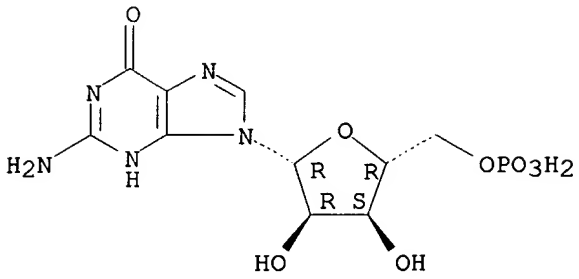


L41 ANSWER 62 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1981:190547 HCAPLUS
DN 94:190547
TI **Masking** of after-**taste** of chalcone sweeteners
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Tokkyo Koho, 4 pp.
CODEN: JAXXAD
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 55046699	B4	19801126	JP 1971-100224	19711213

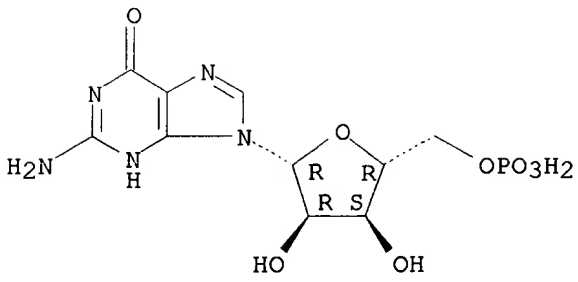
AB The unfavorable after-taste of the artificial sweeteners neohesperidine dihydrochalcone [20702-77-6], naringin dihydrochalcone [18916-17-1], and hesperitin-7-glucoside dihydrochalcone [21940-36-3] can be reduced by adding 5'-ribonucleotides (such as Na 5'-inosinic acid [14999-51-0] or 5'-guanilic acid [**85-32-5**]) to 10-50% by wt.
IT **85-32-5**
RL: BIOL (Biological study)
(chalcone sweetener after-taste decrease by)
RN 85-32-5 HCAPLUS
CN 5'-Guanylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



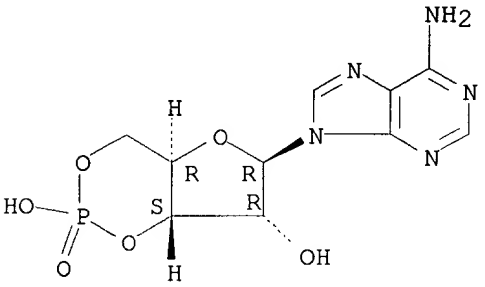
L41 ANSWER 63 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:637256 HCAPLUS
DN 93:237256
TI Development of a synthetic meat flavor mixture by using surface response methodology
AU Hsieh, Y. P. C.; Pearson, A. M.; Magee, W. T.
CS Dep. Food Sci. Human Nutr., Michigan State Univ., East Lansing, MI, 48824, USA
SO J. Food Sci. (1980), 45(5), 1125-30, 1135
CODEN: JFDSAZ; ISSN: 0022-1147
DT Journal
LA English
AB A synthetic model meat **flavor** system was developed by panel testing of various meat **flavor** precursors at different levels by predicting optimum concns. with surface response methodol. The final **flavor** system consisted of an autoclaved mixt. of simple sugars, amino acids, 5'-nucleotides, glycoprotein, monosodium glutamate [142-47-2], and salt, with fat as an optional component. The S-contg. amino acids and simple sugars were important in **flavor** development; the other components either **masked** the harsh sulfury **taste** or enhanced the meaty **flavor**. The surface response method was a good technique for predicting the optimal level of components in the formulation, although panelists were not able to differentiate between small differences in the levels of components in the mixt. Subjection of the final formulation to the panel in comparison to 5 com. meat **flavor** exts. and an authentic beef ext. showed it to be equal or superior to all of the com. samples and nearly equal to authentic beef ext.
IT **85-32-5**
RL: BIOL (Biological study)
(of meat flavoring material)
RN 85-32-5 HCAPLUS
CN 5'-Guanylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 64 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:177766 HCAPLUS
DN 92:177766
TI Functional activity of chemoreceptors in the presence of microtubular apparatus
AU Esakov, A. I.; Meshcheryakova, O. D.
CS Nauchno-Issled. Inst. Norm. Fiziol. im. Anokhina, Moscow, USSR
SO Dokl. Akad. Nauk SSSR (1980), 250(5), 1274-7 [Physiol.]
CODEN: DANKAS; ISSN: 0002-3264
DT Journal
LA Russian
AB Subepithelial administration of colchicine to the tongue of frogs **inhibited** the reaction of **taste** chemoreceptors to various stimuli (NaCl, AcOH, glucose). The **inhibitory** effect of colchicine was blocked by adrenaline, cAMP, and serotonin. Acetylcholine intensified the **inhibitory** effect of colchicine. Evidently, the microtubule app. plays an important role in the functional activity of the **taste** chemoreceptors.
IT **60-92-4**
RL: BIOL (Biological study)
(taste chemoreceptor function response to, in frog, microtubules in relation to)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

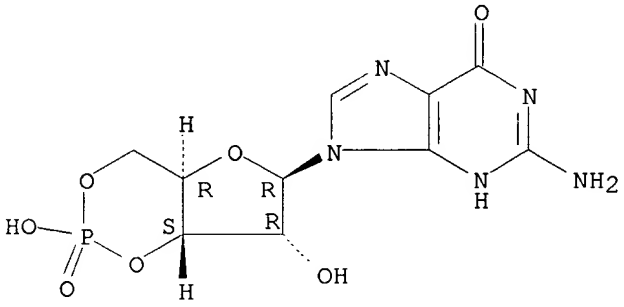
Absolute stereochemistry.



L41 ANSWER 65 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1979:608926 HCAPLUS
DN 91:208926
TI Cyclic guanosine 3',5'-monophosphate and phoshodiesterase activity in

mitogen-stimulated human lymphocytes
AU Takemoto, D. J.; Kaplan, S. A.; Appleman, M. M.
CS Univ. South. California, Los Angeles, CA, 90007, USA
SO Biochem. Biophys. Res. Commun. (1979), 90(2), 491-7
CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
AB Following stimulation of lymphocytes with concanavalin A (con A), lymphocyte cyclic AMP phosphodiesterase activity gradually increased to values previously obsd. in leukemic lymphocytes. The changes in the enzyme paralleled cell proliferation as measured by increases in thymidine incorporation into DNA. The addn. of a guanylate cyclase **inhibitor** prepn. from the **bitter** melon prevented both the changes in the phosphodiesterase and the thymidine incorporation into DNA. This blockage was partially reversed by addn. of the cyclic GMP analog 8-bromo-cyclic GMP to the con A-stimulated normal lymphocytes. A possible role of cyclic GMP in a growth related alteration of cyclic AMP phosphodiesterase is suggested.
IT **7665-99-8**
RL: BIOL (Biological study)
(cyclic AMP phosphodiesterase induction in proliferating lymphocytes in relation to)
RN 7665-99-8 HCAPLUS
CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 66 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1979:444510 HCAPLUS
DN 91:44510
TI Oral composition for treating tabagism
IN Janssens, Raymond
PA Monaco
SO Fr. Demande, 7 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

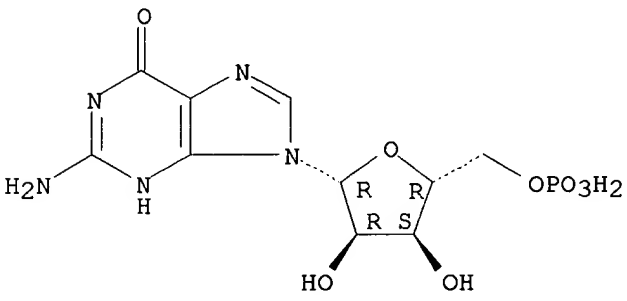
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI FR 2375860	A1	19780728	FR 1977-16	19770103

AB The compn. contained substances that **mask** the smell and **taste** of tobacco. Thus, a compn. was prepd. from powd. cloves

0.001, powd. ginger 0.008, vitamin C [50-81-7] 0.05, powd. coriander 0.005, licorice 0.1, Na glutamate [16177-21-2] 0.01 and excipients 200 g.

IT **38966-30-2**
RL: BIOL (Biological study)
(tobacco smoking inhibition by compns. contg.)
RN 38966-30-2 HCAPLUS
CN 5'-Guanylic acid, calcium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

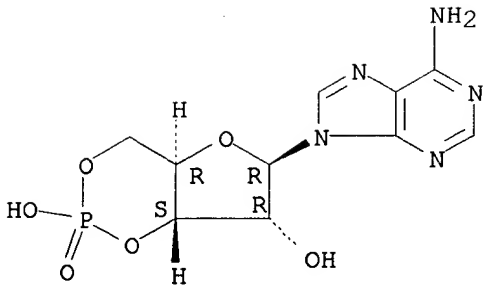


●x Ca

L41 ANSWER 67 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1979:417123 HCAPLUS
DN 91:17123
TI Possible participation of 3,5-AMP in the chemoreceptor process of sugar cells of labellar sensilla of the fly (Musca domestica)
AU Gritsai, O. B.; Elizarov, Yu. A.
CS Mosk. Gos. Univ., Moscow, USSR
SO Mekh. Sens. Retseptsii, [Mater. Vses. Simp.], 3rd (1977), Meeting Date 1976, 171-6. Editor(s): Il'inskii, O. B. Publisher: Akad. Nauk SSSR, Nauchn. Sov. Kompleksn. Probl. Fiziol. Chel. Zhivotn., Leningrad, USSR. CODEN: 40OCAU
DT Conference
LA Russian
AB The stimulation of **taste** receptors of fly labellar senilla by glucose (0.2M) or NaCl (0.1M) was increased by simultaneous application of cyclic AMP. Alloxan (**inhibitor** of adenylate cyclase) or imidazole (**inhibitor** of phosphodiesterase) blocked the stimulatory effect of cyclic AMP with respect to sugar receptors but had no effect on NaCl receptors, indicating a potential role for cyclic AMP in mediating chemoreception in sugar cells.

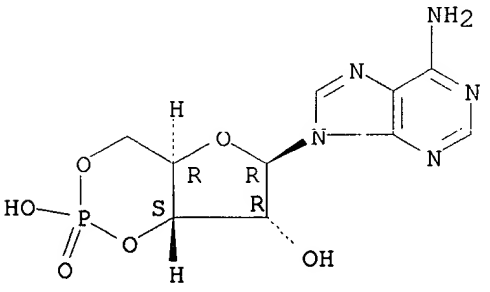
IT **60-92-4**
RL: BIOL (Biological study)
(glucose and sodium chloride receptors of housefly response to)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



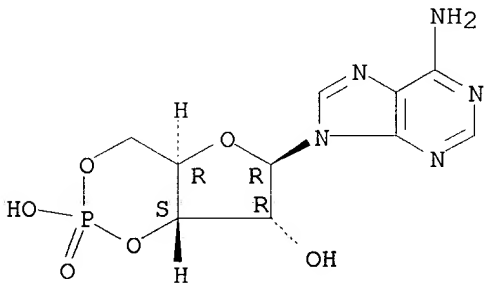
L41 ANSWER 68 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1978:576792 HCAPLUS
DN 89:176792
TI Role of the cAMP system in taste reception mechanisms
AU Samoilov, V. O.; Solov'ev, V. N.; Kozhemyakin, L. A.; Shmarov, D. A.
CS Voen. Med. Akad. im. Kirova, Leningrad, USSR
SO Dokl. Akad. Nauk SSSR (1978), 241(6), 1478-80 [Physiol.]
CODEN: DANKAS; ISSN: 0002-3264
DT Journal
LA Russian
AB The metabolic response of **taste** receptors of the tongue epithelium to chem. stimulants was studied in frogs. Caffeine, a phosphodiesterase **inhibitor**, decreased the flavoprotein/NADH ratio in the tongue epithelium in a concn.-dependent manner. This was accompanied by a logarithmic change in the integral afferent activity of the glossopharyngeal nerve. O consumption by the receptor epithelium was increased. Similar changes were obsd. with other **taste** stimulants, such as acidic, salt, and sweet substances. When applied to the tongue, caffeine increased the cyclic AMP (I) concn. of the epithelium (from 392 to 550 pmol/g), suggesting that the caffeine-induced stimulation of **taste** receptors was mediated by I. This was confirmed by expts. in which application of exogenous dibutyryl I to the frog tongue produced changes similar to those induced by chem. stimulants.
IT **60-92-4**
RL: BIOL (Biological study)
(in taste reception mechanism, in frogs)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



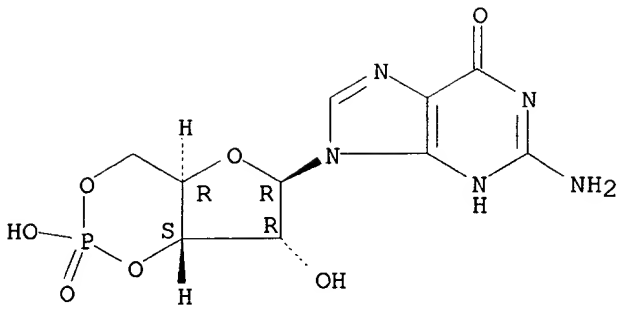
L41 ANSWER 69 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1978:502563 HCAPLUS
DN 89:102563
TI Properties of cyclic nucleotide phosphodiesterase from lingual taste papillae
AU Ostretsova, I. B.
CS I. M. Sechenov Inst. Evol. Physiol. Biochem., Leningrad, USSR
SO Biokhimiya (Moscow) (1978), 43(6), 1037-44
CODEN: BIOHAO; ISSN: 0006-307X
DT Journal
LA Russian
AB Cyclic 3',5'-nucleotide phosphodiesterase (I) activity was estd. in exts. and partially purified prepns. from functionally different parts of bovine tongue. I activity varied from 4.0 to 10.4 nmol/mg protein/min. The properties of I from circumvallate papillae were studied; the pH optimum was 8.0-8.5 and the Km values for cyclic AMP and cyclic GMP were 1.5 .times. 10-4M and 6.5 .times. 10-5M, resp. I activity did not change after treatment with trypsin, protamine sulfate (0.01-1.0%), heparin (0.01-1.0%), and **taste** agents (L-leucine (10-2 - 10-5M), quinine (4 .times. 10-3 - 4 .times. 10-8M), and D-glucose (10-1 - 10-4M). The protein **inhibitor** of I isolated from retinal rod outer segments markedly suppressed enzyme activity, whereas the protein activator from brain tissue stimulated it insignificantly. Thermostable protein modulators, which **inhibit** or activate (depending on exptl. conditions) I activity, were isolated from circumvallate papillae.
IT **60-92-4 7665-99-8**
RL: RCT (Reactant)
(reaction of, with cyclic nucleotide phosphodiesterase, kinetics of)
RN 60-92-4 HCAPLUS
CN Adenosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



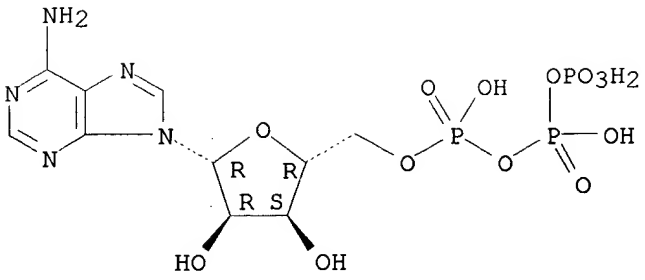
RN 7665-99-8 HCAPLUS
CN Guanosine, cyclic 3',5'-(hydrogen phosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 70 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1976:491389 HCAPLUS
DN 85:91389
TI Cat neural taste responses to nitrogen compounds
AU Boudreau, James C.; Oravec, Joseph; Anderson, William; Collings, Virginia; Nelson, Thomas E.
CS Grad. Sch. Biomed. Sci., Univ. Texas, Houston, Tex., USA
SO ACS Symp. Ser. (1976), 26(Phenolic, Sulfur, Nitrogen Compd. Food Flavors, Symp., 1975), 194-206
CODEN: ACSMC8
DT Journal
LA English
AB The role of 3 distinct neural groups that innervate fungiform papillae of the tongue of the cat in N compds. **taste** response was studied. Both group I and II units were sensitive to water solns. of animal tissues. When chicken, pork, beef, and fish were chopped and mixed with distilled water they elicited neural discharge from geniculate ganglion units when applied to the appropriate tongue receptor field. In testing a variety of compds. related to proline and histidine, it was found that the heterocyclic ring components were as active as the parent amino acids. Thus, the heterocyclic ring pyrrolidine was as stimulatory as L-proline and the imidazole ring was as active as L-histidine. Heterocyclic rings with only heteroatoms of O were inactive. S-contg. compds. were stimulatory but in a complex manner. The most stimulatory heterocycles were 3-pyrroline, pyrrolidine, morpholine, azetidine carboxylic acid, imidazole, piperazine, and piperidine. Azacycloheptane and azacyclooctane were both **inhibitory**.
IT **56-65-5**, biological studies
RL: BIOL (Biological study)
(taste receptor response to)
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

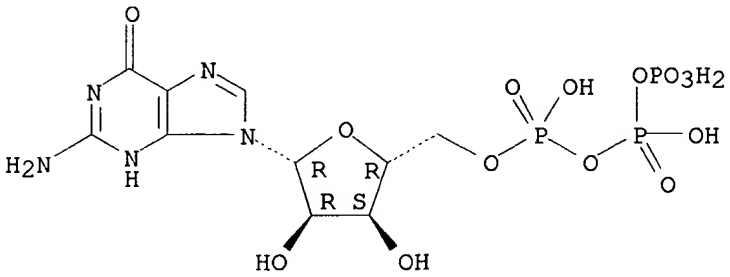
Absolute stereochemistry.



L41 ANSWER 71 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1973:439382 HCAPLUS
DN 79:39382
TI Mechanism for the regulation of nicotinamide adenine dinucleotide-linked substrate oxidation in rat liver mitochondria
AU Olson, Merle S.; Allgyer, Thomas T.
CS Coll. Med., Univ. Arizona, Tucson, Ariz., USA
SO J. Biol. Chem. (1973), 248(5), 1590-7
CODEN: JBCHA3
DT Journal
LA English
AB The mechanism of the GTP-mediated regulation of the oxidn. of NAD- linked substrates in rat liver mitochondria was studied. A possible GTP effect on the electron transport or oxidative phosphorylation sequences at or near the first phosphorylation site was eliminated by the observation that the GTP-mediated **inhibition** of NAD-linked substrate oxidn. occurred in rotenone plus menadione- treated mitochondria in which electrons were shunted around Site I. Furthermore, the intramitochondrial pyridine nucleotides. NADH and NADPH, become greatly oxidized upon initiation of the **inhibitory** state. Cytochromes b, c, and a also become oxidized under these conditions. Apparently, reducing equivs. from the NAD-linked dehydrogenase reactions were not available to the electron transport chain at the NADH level during the GTP-mediated **inhibitory** state. GTP exerted its effect on this system by causing an **inhibition** of the .alpha.-ketoglutarate dehydrogenase multienzyme complex. Three other well documented **inhibitors** of the .alpha.-ketoglutarate dehydrogenase reaction, i.e. Na arsenite, parapyruvate, and 5-methoxyindole-2-caroxylic acid exactly mimicked the effects of elevated GTP levels on the oxidn. of NAD-linked substrates. All 4 of these **inhibitors** of .alpha.-ketoglutarate dehydrogenase caused an **inhibition** of the oxidn. of NAD-linked substrates, a drastic oxidn. of intramitochondrial pyridine nucleotides and redn. of the flavo- protein, dihydrolipoyl dehydrogenase. Thus, the entry of reducing equivs. into the electron transport chain in intact rat liver mitochondria apparently must occur via the **flavorpro**- tein dihydrolipoyl dehydrogenase, portion of the .alpha.-ketoglutarate de- hydrogenase complex. This flavine-linked transfer of reducing equivs. produced in the primary NAD-linked dehydrogenases of the mitochondrion to the NADH level of the respiratory chain is strongly controlled by the GTP level of the mitochondrion.
IT **86-01-1**
RL: BIOL (Biological study)
(oxoglutarate dehydrogenase inhibition by, mitochondrial NAD-linked substrate oxidn. in relation to)

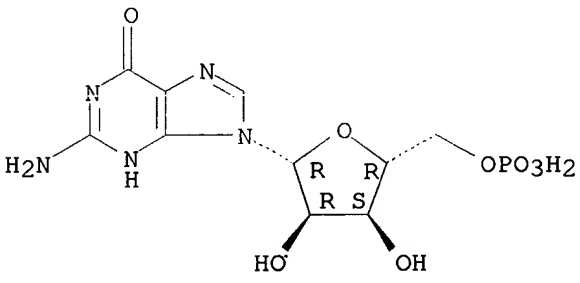
RN 86-01-1 HCAPLUS
CN Guanosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



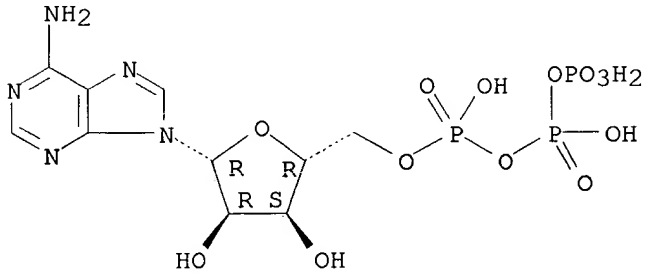
L41 ANSWER 72 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1973:82885 HCAPLUS
DN 78:82885
TI Binding of end product in the fermentation of nucleotides
AU Schwartz, J.; Margalith, P.
CS Dep. Food Eng. Biotechnol., Technion-Israel Inst. Technol., Haifa, Israel
SO Biotechnol. Bioeng. (1973), 15(1), 85-91
CODEN: BIBIAU
DT Journal
LA English
AB Mutants of Streptomyces 772 produced appreciable amts. of IMP and XMP, but only traces of GMP under ordinary fermn. conditions. This was probably due to the feedback **inhibition** of the trace end product, GMP. Through suitable fermn. techniques it was possible to overcome this internal control mechanism which increased yields of GMP. A description of the cultures, medium, resin, and assay employed is given. Although the addn. of dioxane was specific for GMP complexing while that of binding by anion-exchange resin was nonspecific, both systems yielded similar increases in the formation of **flavor**-enhancing nucleotides.
IT **85-32-5P**
RL: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)
(manuf. of, end product binding in)
RN 85-32-5 HCAPLUS
CN 5'-Guanylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 73 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1969:9618 HCAPLUS
DN 70:9618
TI Chemical basis of feeding in the tick Ornithodoros tholozani
AU Galun, Rachel; Kindler, S. H.
CS Israel Inst. Biol. Res., Ness-Ziona, Israel
SO J. Insect Physiol. (1968), 14(10), 1409-21
CODEN: JIPHAF
DT Journal
LA English
AB This tick imbibes saline contg. reduced glutathione (GSH) and glucose almost as readily as whole blood. The effect of these 2 compds. was synergistic when tested at concns. found in blood. Glucose could not be replaced by fructose, galactose, arabinose, or sucrose. After prolonged starvation marked feeding response could be also elicited by isotonic saline contg. glucose and one of the following L amino acids: leucine, alloisoleucine, proline, valine, serine, alanine, phenylalanine, and glutamine. Solns. contg. ATP or DPNH in place of GSH also induced max. feeding response. L-Glutamate and the SH reagent 5,5'-dithiobis(2-nitrobenzoic acid) **inhibited** feeding in the presence of GSH, ATP, or DPNH. Addn. of Mn2+ or one of the heavy metals Cd2+, Zn2+, and Ni2+ prevented feeding on all solns. It is believed that feeding is mediated by at least 2 kinds of chemoreceptors; one specific for GSH, ATP or DPNH, the other for amino acids. The identification of several compds. which, in certain combinations, induce feeding in O. tholozani can account completely for the **taste**-response to blood in chem. terms.
IT **56-65-5**, biological studies
RL: BIOL (Biological study)
(Ornithodoros tholozani feeding response to)
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

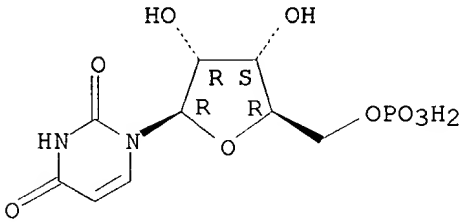
Absolute stereochemistry.



L41 ANSWER 74 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1968:94121 HCAPLUS
DN 68:94121
TI Patterns of impulses produced by monosodium glutamate and 5'-ribonucleotides in taste units of the rat
AU Sato, Masayasu; Yamashita, Satoru; Ogawa, Hisashi
CS Kumamoto Univ. Med. Sch., Kumamoto, Japan
SO Olfaction Taste 2, Proc. Int. Symp., 2nd, 1965 (1967), Meeting Date 1965, 399-410

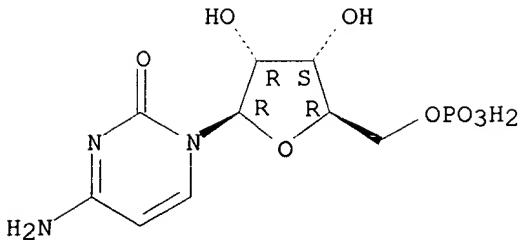
CODEN: 19SDAD
DT Conference
LA English
AB Recordings were made of the chorda tympani response to stimulation of the tongue of the rat by Na salts of IMP, GMP, UMP, and CMP, given with MSG. Addn. of GMP or IMP at 1% of the amt. of MSG produced a response magnitude exceeding that of MSG alone about 5-fold. The ability of the 4 ribonucleotides to produce the enhancement when mixed with MSG is in the order of GMP > IMP > UMP > CMP. The responses when mixts. of MSG and GMP or IMP dissolved in NaCl soln. were used as stimuli were smaller, suggesting that NaCl **inhibits** the potential response. The results obtained on the rat chorda tympani response and those on the human **taste** sensation yielded a similar relation, indicating that the **flavor**-enhancing ability of the ribonucleotides is attributed entirely to the receptor mechanism and that this is reflected in the response of the chorda tympani nerve. Impulse discharges by 4 basic kinds of taste stimuli (0.1M NaCl, 0.5M sucrose, 0.01N HCl, and 0.02M quinine), 0.3% MSG, 0.3% ribonucleotides were recorded from a few nerve fibers in the chorda tympani of the rat. Among 14 units which showed a prominent response to NaCl, 11 showed a poor response to HCl and quinine, and to sucrose. Fourteen units showed a response to sucrose and an enhanced response to mixts. of MSG and ribonucleotides, the latter being higher than in the units which were sensitive to NaCl. Other tests also indicate that the response to a mixt. of MSG and GMP is linearly related to the sucrose response. No significant correlation was obtained between the response of MSG and UMP and that to sucrose, indicating that the former response is related to sucrose. If the discrimination between stimuli is related to the impulse frequency, and highly correlated stimuli **taste** alike, but uncorrelated ones **taste** differently, then the mixt. of MSG and GMP (or IMP) produces a **taste** sensation which is to some extent similar to that by sucrose but is different from the **taste** of a mixt. of MSG and UMP.
IT **58-97-9**, biological studies **63-37-6**, biological studies
RL: BIOL (Biological study)
(taste enhancement by)
RN 58-97-9 HCAPLUS
CN 5'-Uridylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



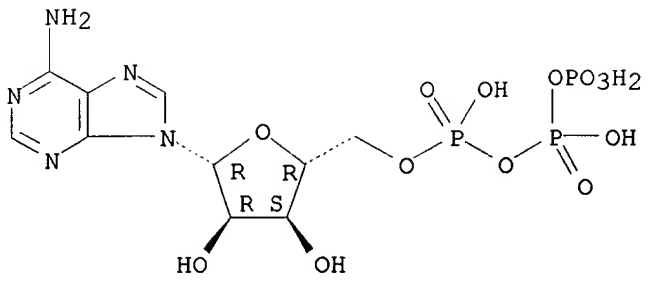
RN 63-37-6 HCAPLUS
CN 5'-Cytidylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 75 OF 75 HCAPLUS COPYRIGHT 2002 ACS
AN 1968:58391 HCAPLUS
DN 68:58391
TI Role of macroergic compounds in the function of taste receptors. Effect of substances altering the energy metabolism on the functional activity of taste receptors
AU Yur'eva, G. Yu.
SO Vestn. Mosk. Univ., Ser. Mat., Mekh., Astron., Fiz., Khim. (1967), 22(4), 21-6
CODEN: VMUMAB
DT Journal
LA Russian
AB Expts. were performed on frog tongue. The prepn. was carried out by killing the animal and positioning the tongue on a plate. The blood circulation was replaced by a perfusion with a Ringer soln. (0.5-1.0 ml./min.). The irritation of taste receptors was performed by placing the solns. under investigation on the dorsal part of the tongue. The activity of the taste receptors was registered by an oscillograph interconnected with the corresponding nerve fiber. As irritating agents the following solns. were used: NaCl (3%); quinine (2 .times. 10-4 g./ml.), glucose (3%), and distd. water. The effect of high-energy compds. on the receptor irritation was investigated by the use of ATP (2-3 ml. of a 10-4-10-5 g./ml. soln.), 2,4-dinitrophenol (2-3 ml. of a 5 .times. 10-5-5 .times. 10-4 g./ml./soln.), and a standard soln. (4-6 ml.) of thyroxine. The results show that the activity of the receptors depended on the amt. of the macroergic phosphates. A small amt. of ATP supplementing the receptor side increased the count of registered impulses, while a high concn. of ATP had an opposite effect. The action of uncouplers of oxidative phosphorylation (2,4-di-nitrophenol and thyroxine) resulted in a depression of receptor activity.
IT **56-65-5**, biological studies
RL: BIOL (Biological study)
(taste receptor response to)
RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.


NH2
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OH
O